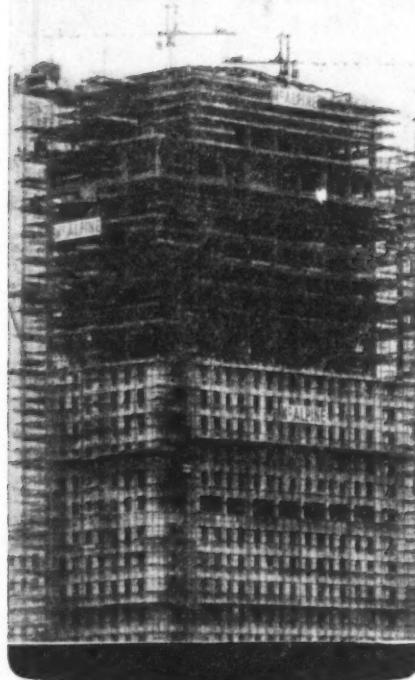
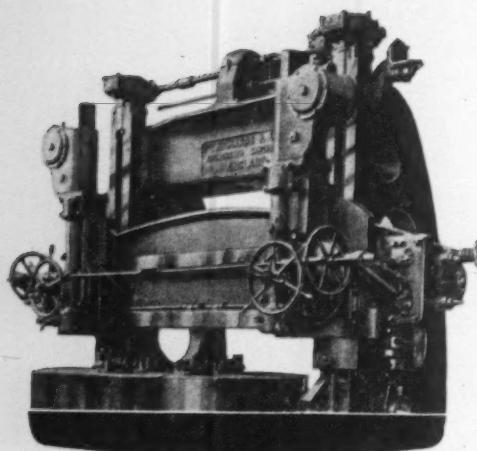


a|r

Giant Parsnip

THE ARCHITECTURAL REVIEW VOLUME CXXVIII NUMBER 762 AUGUST 1960 FIVE SHILLINGS



DAWNAYS
specialists in the design
fabrication & erection of
STEELWORK

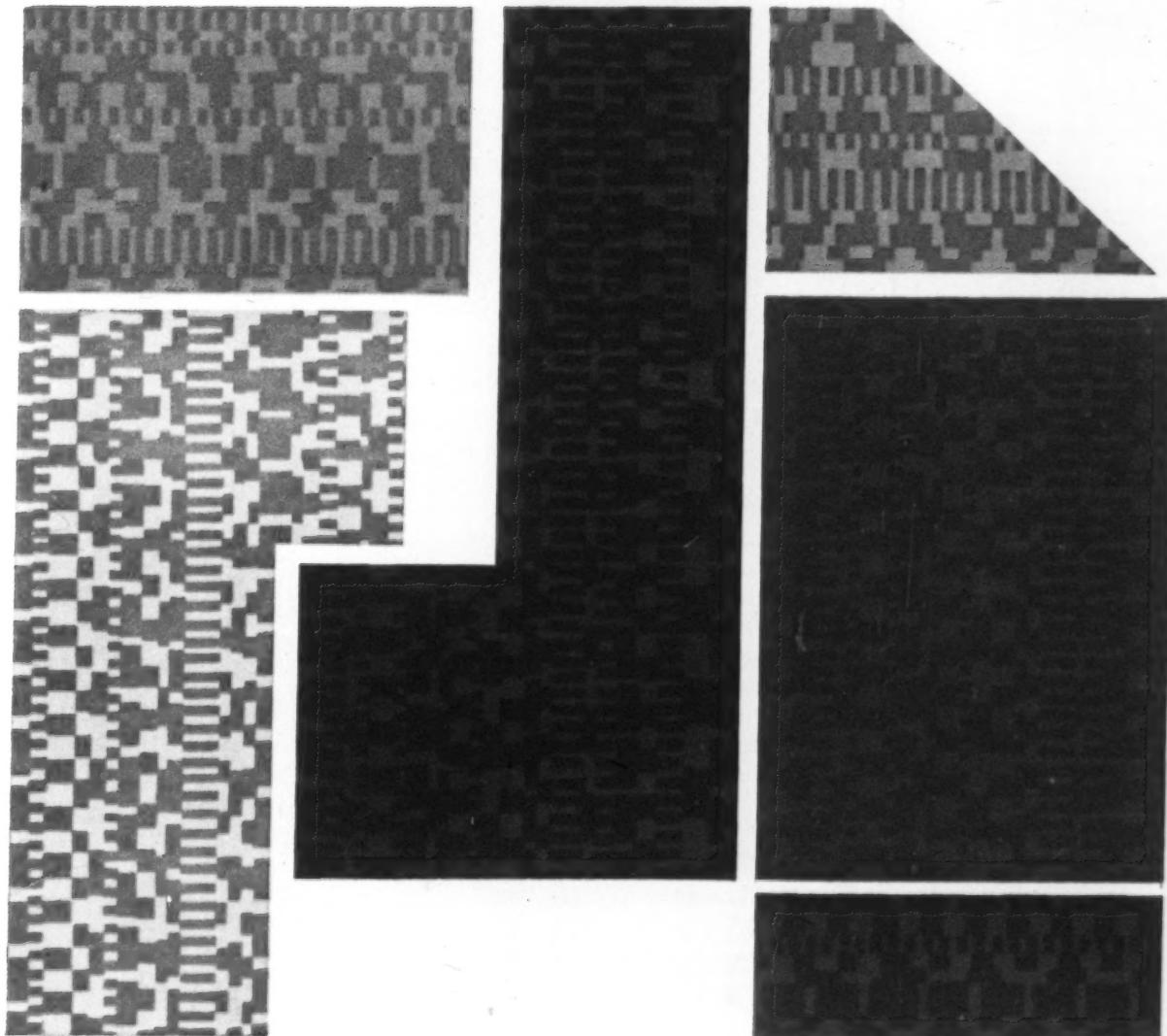
FORMICA*

THE FINEST OF ALL THE DECORATIVE LAMINATES

*FORMICA is a registered trade mark

POMPADOUR

Another in the series
of Formica bold patterns
for the Architect and
Designer - Pompadour - which
may be had on special
order. Seven colours:
Blue, Green, Blue/Green,
Grey/Brown, Dark Grey,
Red, Brown.



Formica Ltd., De La Rue House, 84-86 Regent Street, London, W.1.

*This reproduction may differ from the actual Formica colour pattern.

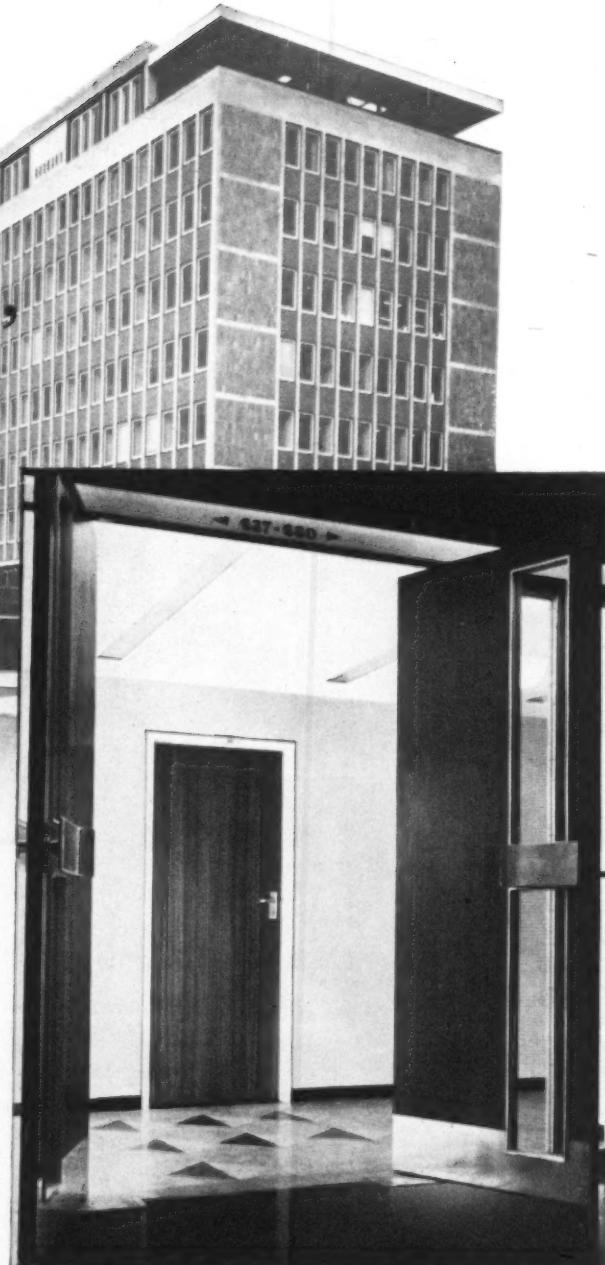
I.C.I CHOSE
'Aristocrat'
—the door of
dignity and
dependability

FOR THEIR NEW OFFICE BLOCK
AT BILLINGHAM, CO. DURHAM

Main Contractors: John Laing & Son Ltd.

Hundreds of Hills 'Aristocrat' flush doors lend additional harmony and grace to this attractively spacious building. These fine doors in a wide range of veneers and matching edge strips, with the exclusive Hills Kreibord core, add dignity to any major project. They are manufactured in the dimensions and veneers to your specification.

Your important project deserves Hills 'Aristocrat' flush doors.



Photographs by courtesy
of I.C.I.

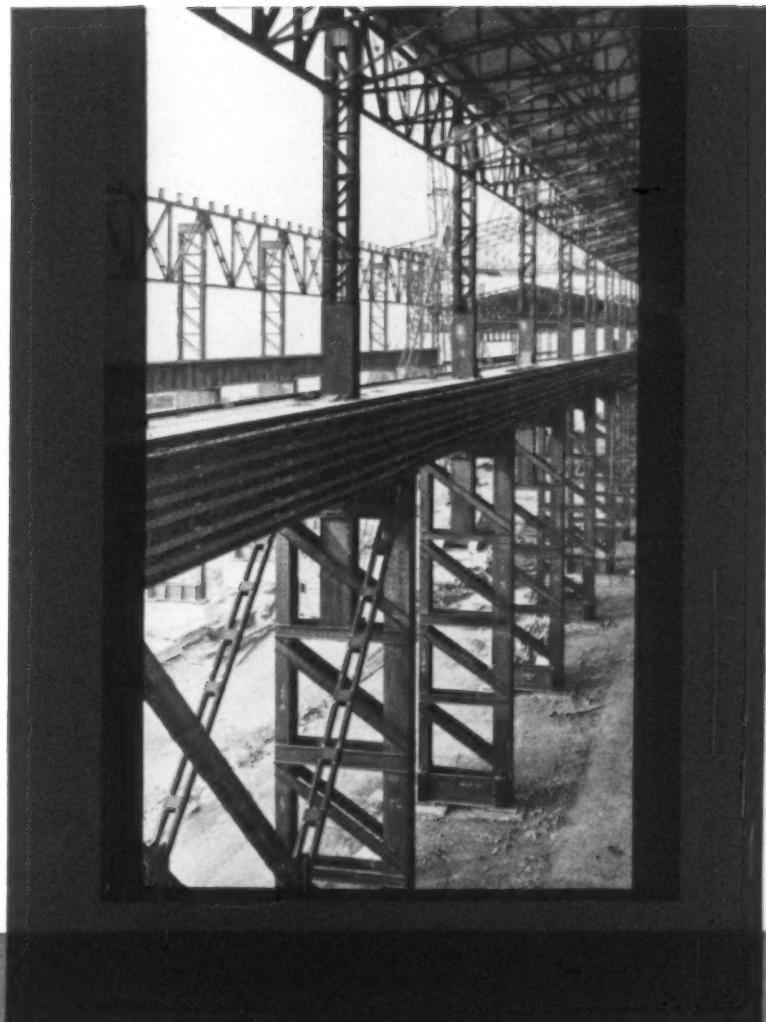
Hills
ARISTOCRAT
FLUSH DOORS

For more information write to:—

F. HILLS & SONS LIMITED NORTON ROAD STOCKTON-ON-TEES • Telephone: 67141
LONDON OFFICE: WINDSOR HOUSE KINGSWAY LONDON WC2 • Telephone: CHAncery 9251

Telex in operation at both offices.

T4605



STEEL GIVES STRENGTH

Colvilles have built up a reputation as suppliers of all types of Structural Steel - Light and Heavy Sections, Joists and Plates - to all specifications. Colvilles can supply a range of High Strength Steels under our DUCOL series with a minimum yield strength of 23 tons per square inch and upwards.

These special steels are in regular production and can be supplied in accordance with our rolling programme.



COLVILLES

FITNESS FOR PURPOSE STEELS

COLVILLES LIMITED 195 West George St., Glasgow C.2.

HADRIAN RAPID

*the first gloss paint to combine
RAPID DRYING with
these other important features*



★ Easy to apply . . .
ample "wet edge" time

★ Extremely durable and
weather resistant . . .
won't crack or chip

★ Dries fast . . . inside,
outside—winter, summer.
Dry in 1 to 2 hours,
second coat within 4 hours.

*Saves time
Reduces labour costs
Lessens risk of—*

BLOOMING
RAIN-SPOTTING
ATTACK BY FOG OR DEW
DUST OR DIRT DEPOSITS

For more details of Hadrian Rapid write or phone your local Smith & Walton depot, or call

SMITH & WALTON LTD HALTWHISTLE NORTHUMBERLAND

HALTWHISTLE 421

99

Yes!
Specify the BILSTON
ATLANTA
whatever size
bath is needed



Whatever size a bathroom is to be, a Bilston Atlanta can be specified. Made in five sizes, the Atlanta has the superior Bilston finish and durability, plus design features that make it particularly safe and comfortable. No matter how large the estate, standard specification of the Bilston Atlanta ensures complete satisfaction. The Atlanta has been selected for the Design Centre and costs no more than an ordinary bath.

ALL THIS WITH THE ATLANTA!

Flat Bottom—the Atlanta flat bottom helps to prevent slipping... ensures comfort. Particularly suitable where a shower is to be fitted.

Safety—the low sides make the Atlanta safer for young and old. It can be fitted to give an overall height of only 16".

Taps can be fitted centrally, or on either corner to facilitate installation and maintenance.

Fittings—the Atlanta is supplied with or without hand grip. The feet can be adjusted to accommodate all types of trap, including the Bilston "Wasteflo" prefabricated waste trap and overflow unit.

Also available with the Bilston O.P. Hand Grip specially designed to meet the needs of the elderly or infirm.

Colours—the Bilston range includes white, or the exact colour required for any decorative scheme.



Bilston Foundries Ltd Bilston · Staffordshire · Illustrated literature is available on request

Specify

NEWEDGE

FITTINGS

FOR YOUR "ARMOURPLATE" DOORS

So that you get

NEWMAN'S "BRITTANIC" FLOOR SPRINGS with
"ADJUSTABOX" the modern method of door alignment
2" DEEP RAILS FOR MAXIMUM GLASS AREA
5 LEVER LOCKS & SLIDING ESCUTCHEONS

H
A



"NEWEDGE" FITTINGS ARE GUARANTEED 5 YEARS
APPROVED AND USED BY PILKINGTON BROTHERS LTD.

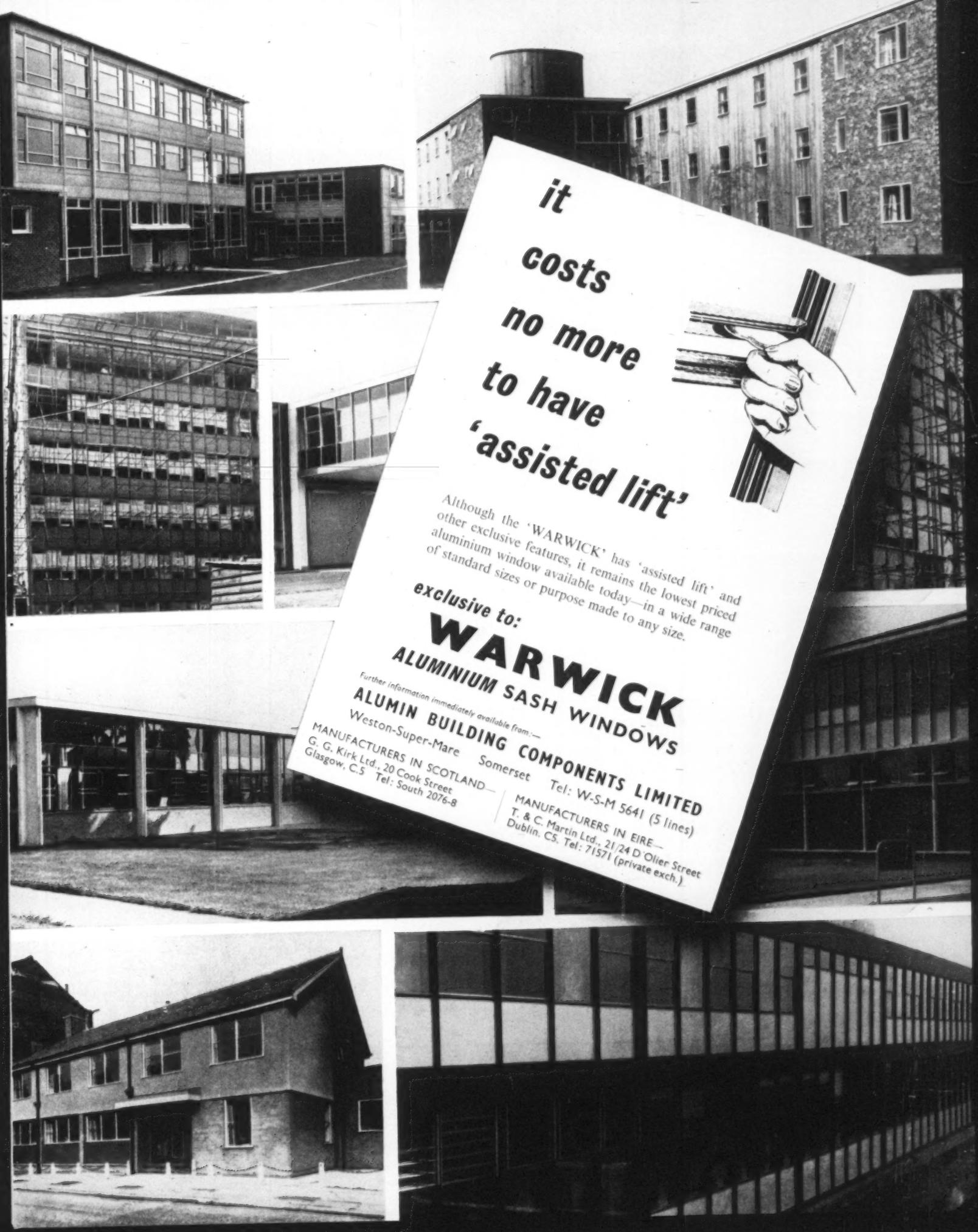
MANUFACTURED BY

NEWMANS

WILLIAM NEWMAN & SONS LTD.
HOSPITAL STREET, BIRMINGHAM, 19

Ask Your Glass Merchant for a Leaflet

"ARMOURPLATE" IS THE REGD. TRADE MARK OF PILKINGTON BROTHERS LTD.



it
costs
no more
to have
'assisted lift'



Although the 'WARWICK' has 'assisted lift' and other exclusive features, it remains the lowest priced aluminium window available today—in a wide range of standard sizes or purpose made to any size.

exclusive to:

WARWICK

ALUMINIUM SASH WINDOWS

Further information immediately available from:-

ALUMIN BUILDING COMPONENTS LIMITED
Weston-Super-Mare Somerset

Tel: W-S-M 5641 (5 lines)

MANUFACTURERS IN SCOTLAND—
G. G. Kirk Ltd., 20 Cook Street
Glasgow, C.S. Tel: South 2076-8

MANUFACTURERS IN EIRE—
T. & C. Martin Ltd., 21/24 D'Olier Street
Dublin, C.S. Tel: 71571 (private exch.)

THE ANSWER IS A METAL PARTITION

BY EVERTAUT



They're so versatile—can be planned to fit any shape or size of floor space.

Erection is simple and speedy, with none of the mess and noise usually associated with building jobs. And not only is the result attractive it's strong, rigid, gleaming with practical qualities.

Write for our illustrated folder.

**POST
COUPON
FOR
CATALOGUE**

To EVERTAUT LTD., WALSALL ROAD,
PERRY BARR, BIRMINGHAM, 22B.

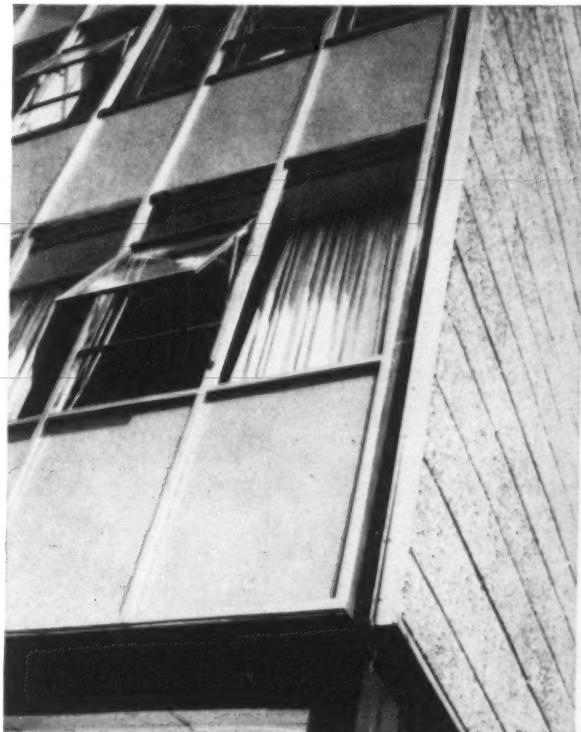
*Please send me full details of
Evertaut Metal Partitions.*

NAME _____

ADDRESS _____



STAINLESS STEEL IN ARCHITECTURAL DESIGN

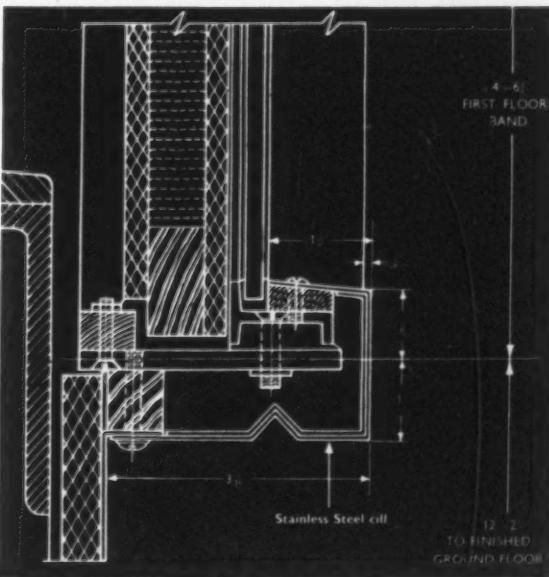
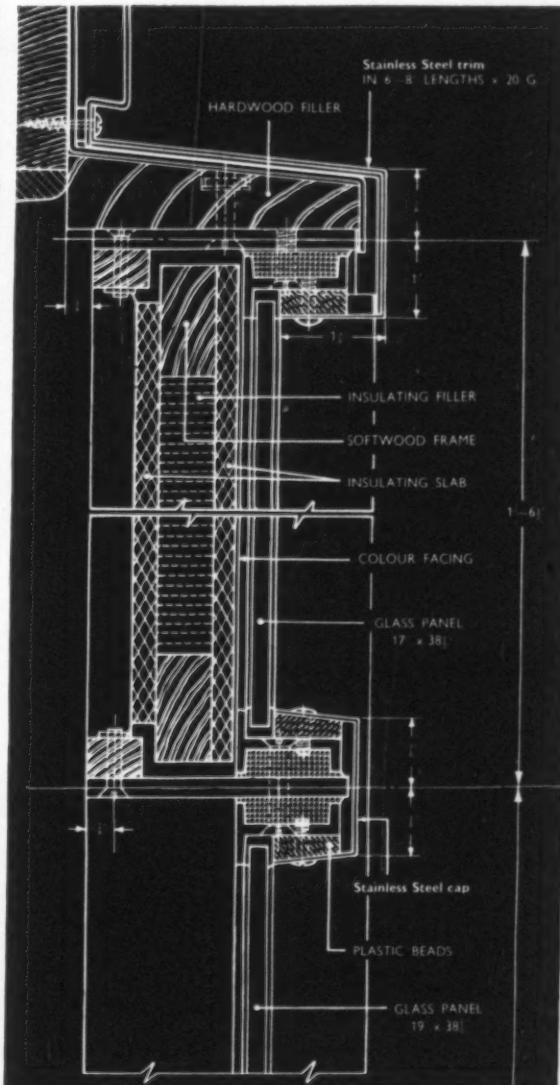


Bowater Paper Corporation Limited office and welfare block, Ellesmere Port.

Architects: Messrs. Farmer and Dark.
Curtain walling by John Williams (Cardiff) Ltd.

The cills, mullion cappings and trim for the curtain walls of this building are made from 20-gauge "Silver Fox" stainless steel, electro-polished. This material is also used decoratively in the construction of the main entrance.

Glass and polished stainless steel have been used to produce an effect of brilliance and dignity which is calculated to last, with very low maintenance costs, as long as the building itself.

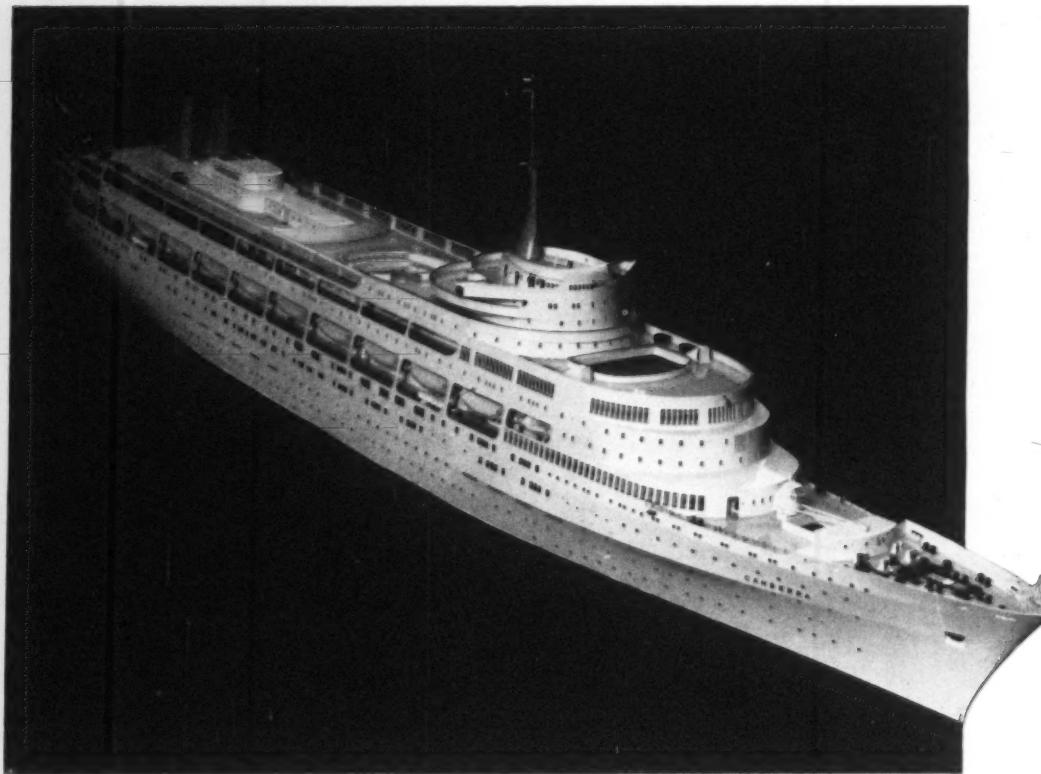


samuel fox
& company limited stocksbridge works sheffield

A subsidiary company of The United Steel Companies Limited

THE UNITED
STEEL
COMPANIES LTD
458

THE SILENT SHIP



S.S. *Canberra*, 45,000 Tons, built by Harland & Wolff, Ltd

For the *Canberra*, the world's most modern liner, high standards of Acoustic Engineering were demanded—and were met.

Because the engine room is located aft, a great reduction in background noise has been achieved throughout the passenger quarters of the ship. In consequence, normal cabin-to-cabin noise is much more audible, and its elimination, therefore, became essential.

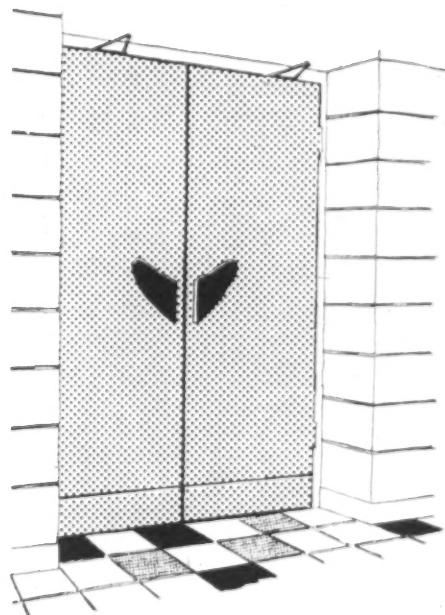
Specially designed isolated sound resistant cabin doors and bulkheads were the answer. Their construction, with other specialist acoustic work, has been entrusted to Sound Control.

To the Architect and to Industry we offer, on land or sea, an equally efficient solution to any sound problem.

SOUND CONTROL LIMITED

ACOUSTIC ENGINEERS

A member of the Hall-Thermotank Group.
Colneside Works, West Drayton, Middlesex. West Drayton 3685 (5 lines)
Scottish Office: 10 Bothwell Street, Glasgow C.2. Central 6571/2



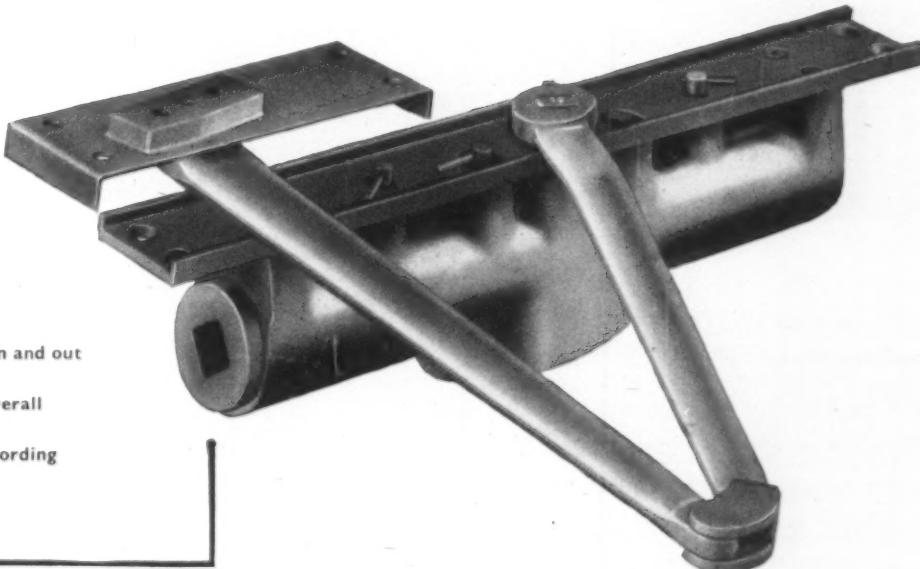
Only the SLIM arms can be seen

The "BRITON 500" is a door closer designed for use when the appearance of the door and surroundings are of first consideration. With nothing visible except the slim arms, which are styled to be as streamline and unobtrusive as possible, it achieves complete concealment without loss of power or door control. The "BRITON 500" is suitable for internal single-action doors not exceeding 7' by 3' in size, and 112 lbs. in weight.

THE BRITON

Concealed Door Closer

500



- ★ Smooth and silky check-action.
- ★ Bounce completely eliminated.
- ★ Closing and latch speed fully adjustable.
- ★ Stand open device put in and out of action as desired.
- ★ Body only 1½in. wide, overall length 13in.
- ★ Opens to 90° or 180° according to fixing position.
- ★ No oil leakage.

See our exhibits at the Building Centre,
26 Store Street, London, W.C.1

William Newman & Sons Ltd.

HOSPITAL STREET, BIRMINGHAM, 19.

WHEN DECISIONS COUNT



... **it's necessary to think clearly.** Think clearly about PERMANENT Sickness and Accident Insurance and you will see that it is essential to you, because your standard of living and that of your family depends on your income. Your income depends on you. If you suffered an illness or accident and could not work, your income would suffer.

Can you afford to take this risk?

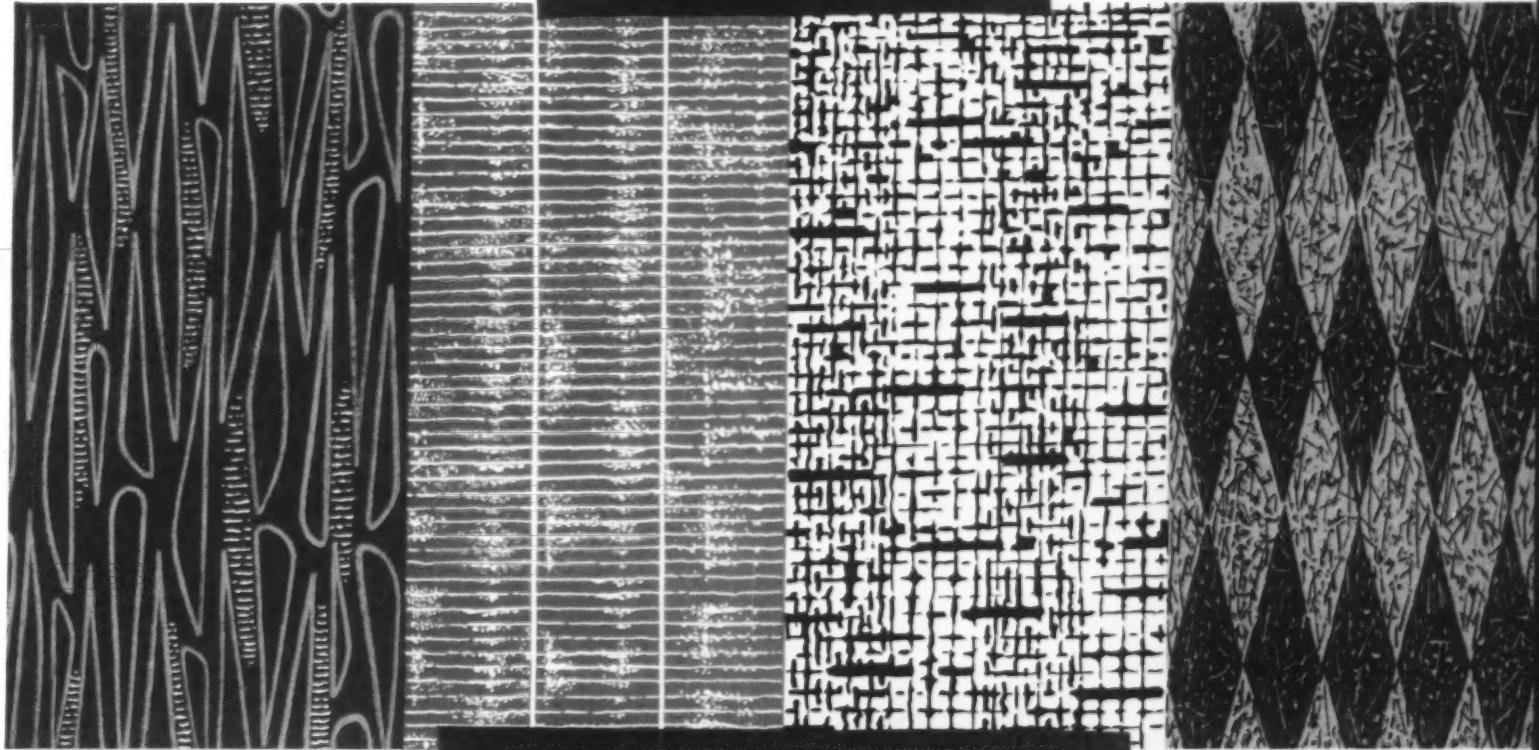
Write
for full
particulars.

Permanent
Sickness
Insurance Co., Ltd.

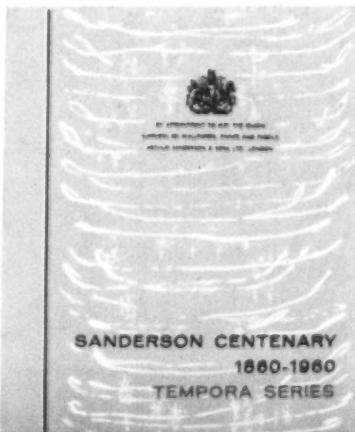
'Permanent' Sickness and Accident Insurance cannot be cancelled on account of heavy claims. It is not expensive to insure your income.

3 CAVENDISH SQUARE, LONDON, W.I.

Telephone: LANgham 0341 (10 lines)



THE SANDERSON TEMPORA SERIES



The Sanderson Tempora Series brings modern design in wallpaper into the popular price range. Here is a selection of brilliantly inventive designs in a thoroughly contemporary idiom. Many are by young prizewinners in the recent Sanderson Centenary Competition, for which entries were received from all round the world. Thus the series has an international standard in design and represents a highly important development in the ever-broadening field of decoration.

ARTHUR SANDERSON & SONS LTD.,
BERNERS STREET, LONDON, W.1

and at Glasgow, Edinburgh, Leeds, Manchester,
Liverpool, Birmingham, Leicester, Exeter,
Bristol, Southampton and Brighton

This company is responsible for the design and installation of all the mechanical engineering services (twenty-two in all including full air conditioning) in the new offices of the Shell International Petroleum Company Limited on the South Bank.

*Chartered Architects: EASTON & ROBERTSON, CUSDIN,
PRESTON & SMITH*

Main Contractors: SIR ROBERT McALPINE & SONS LTD.

HADEN

HEATING, AIR CONDITIONING
PIPING & SANITARY ENGINEERS

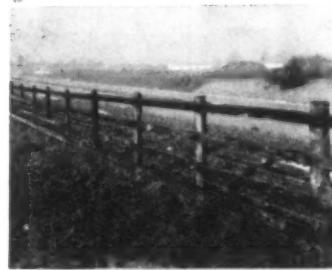
G. N. HADEN & SONS LIMITED

7 12 TAVISTOCK SQUARE, LONDON W.C.1
Other branches throughout the United Kingdom & Overseas



Britain's Timber for Britain's Industry

FOR BRITAIN'S ROADS



More British timber is fencing Britain's roads. One of the many important contracts awarded to the Corporation was for 45 miles of fencing for the Doncaster by-pass.

FOR BRITAIN'S SHIPS



Home grown sycamore panels the first-class observation lounge of the "Queen Elizabeth". British oak was chosen for the state rooms of the "Mauretania". The hardwoods of Britain are among the finest in the world, and are used extensively in the construction of fishing vessels.

FOR BRITAIN'S EXPORTS

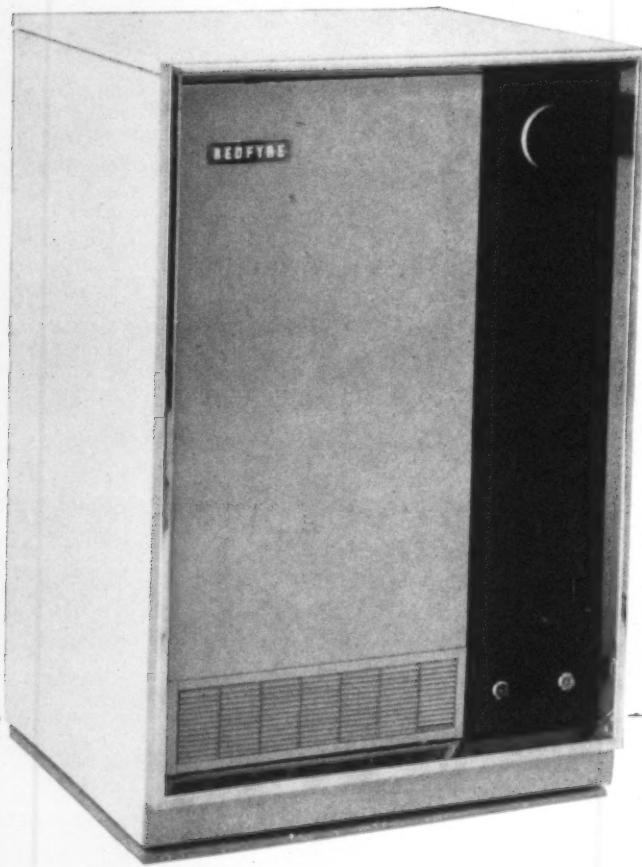


Britain's timber protects Britain's exports. In this rapidly expanding field, more and more firms turn to home grown timber, now made available through the Corporation in regular bulk supplies of guaranteed quality.

To put Britain's timber at the service of industry is the purpose of the Home Grown Timber Marketing Corporation Limited. Meeting modern industry's demand for controlled bulk delivery, the Corporation co-ordinates the resources of 300 member sawmills throughout Britain. Only through the Home Grown Timber Marketing Corporation can industry obtain home grown timber in bulk — with a guarantee of controlled delivery, at the right time, in accordance with buyers' requirements.

Home Grown Timber Marketing Corporation Ltd

40 BAKER STREET · LONDON W.1. · TELEPHONE: HUNTER 2229



The new REDFYRE CENTRAMATIC makes oil-fired central heating the *natural* choice for three or four bedrooomed houses

The new Redfyre Centramatic 50 can provide full central heating and ample domestic hot water for a three or four bedroom house on as little as 25/- worth of fuel a week averaged over the year. It can do this partly because it is thermostatically controlled, and partly because of its unique electric ignition system which completely cuts out wasteful idling.

The Centramatic 50 is designed to fit perfectly into a modern kitchen. It has the right dimensions (36" high x 21" deep) and an attractive variety of 3-tone colour schemes. It is fully insulated, and does not rely on

chimney draught for efficient combustion (although it needs a chimney flue in which to exhaust).

The Centramatic 50 comes as a packaged unit. It requires no specialised installation techniques. And, of course, being totally enclosed, permanently installed and fed with oil from outside the house, it is always perfectly safe.

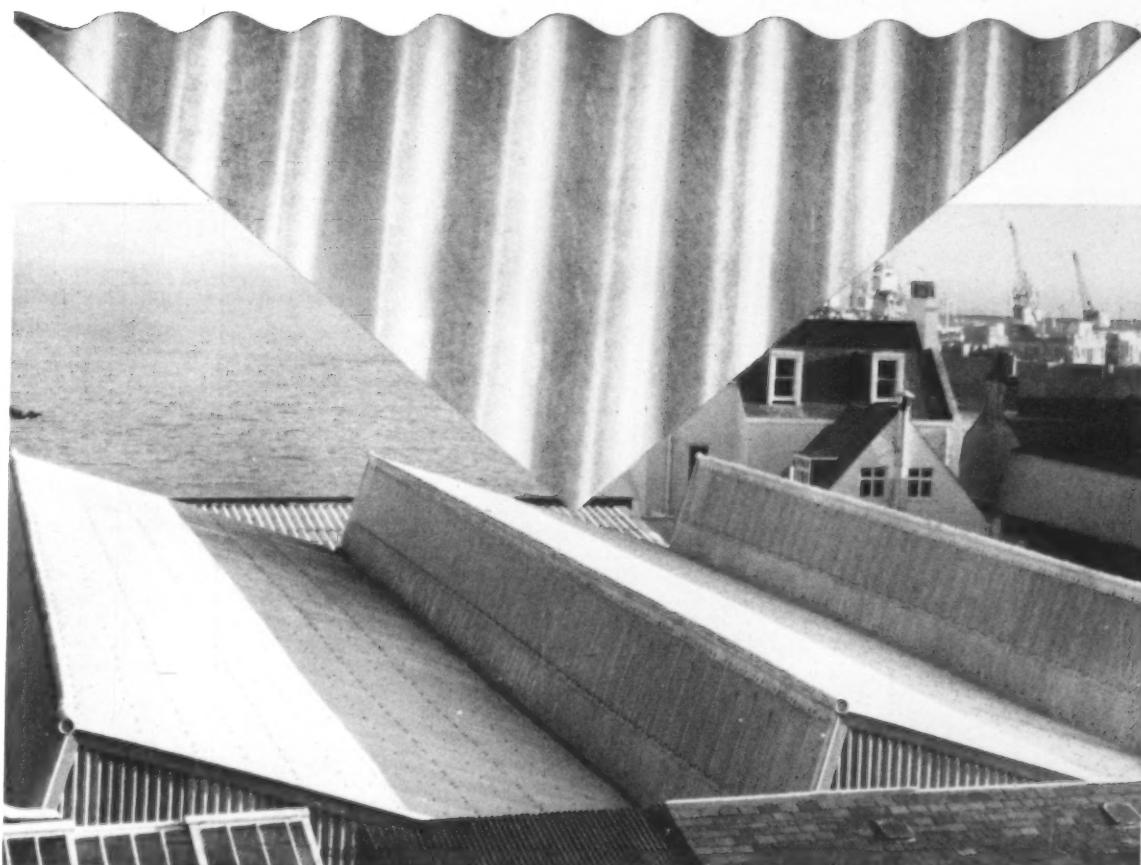
The Redfyre Centramatic 50 is suitable for heating systems requiring up to 50,000 B.T.U.'s per hour and costs £128 retail. There is also a larger version, the Redfyre Centramatic 80, which has an hourly output of 80,000 B.T.U.'s and costs £149 retail.

Full technical specifications of the Redfyre Centramatic oil-fired boilers are available. Please write to

NEWTON CHAMBERS & CO. LTD., REDFYRE PRODUCTS, THORNCLIFFE, SHEFFIELD

everything points to

FILON



FILON Installed in Messrs. Bucktrouts' premises, Jersey, used for bottling and storage of wines and spirits and for storing tobacco.

the economical translucent structural sheeting —

FILON is economical because it is simple to install, so light to transport and handle. It passes up to 85% of light, is non-corrodible and virtually indestructible; it is of uniform strength throughout and can be obtained in any length required because it is made by a continuous process.

FILON is ideal for rooflights, cladding and canopies in many kinds of buildings and it is available in flat sheet (in roll form if required) or in standard profiles to match corrugated iron, aluminium and asbestos sheeting. FILON is approved by Local Authorities, Ministry of Works, the Admiralty, War Office and Air Ministry. Write for full details.

NEW! Coloured FILON in any standard profile and special decorative profiles. Colour samples on request.

FILON

STRUCTURAL SHEETING



strong light translucent

B.I.P. REINFORCED PRODUCTS LIMITED · STREETLY WORKS · SUTTON COLDFIELD · Phone: Streetly 2411



The Imdugud Relief, outstanding among discoveries made at Al-Ubaid, of art works incorporating copper and bitumen . . . and dated c.3100 B.C. Reproduced by courtesy of the British Museum.

What
will
last . . .
5,000
years?

Copper and native bitumen are known to have been in use as long ago as 3100 B.C. because the weatherproof and corrosion-resistant properties of these materials have helped to preserve for 20th Century eyes relics of unbelievably ancient civilisations.

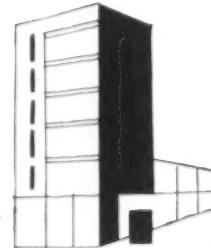
TODAY this same time-tested combination of Copper and native bitumen now derived from the great Trinidad Asphalt 'lake' provides modern building with COPPERTRINDA — the finest handmade dampcourse in the world.

COPPERTRINDA

for lasting protection

A sample of COPPERTRINDA will be sent to you immediately upon request to

ENGERT & ROLFE LIMITED
Dept AR.6 Barchester Street London E14
Tel. EAST 1441



Will Engert & Rolfe arrange to have a sample of COPPERTRINDA sent to

M _____

(Designation) _____

of _____

in _____

AR 6

Mellor Bromley

AIR CLEANER HUMIDIFIER

for complete saturation and efficient air cleaning—with no free moisture

DATA

as illustrated

WEIGHT

approx. 2 c.wts.

DIMENSIONS

1'9" x 1'9" x 5'0"

CAPACITY

800-1200 c.f.m.

1/7th H.P. MOTOR

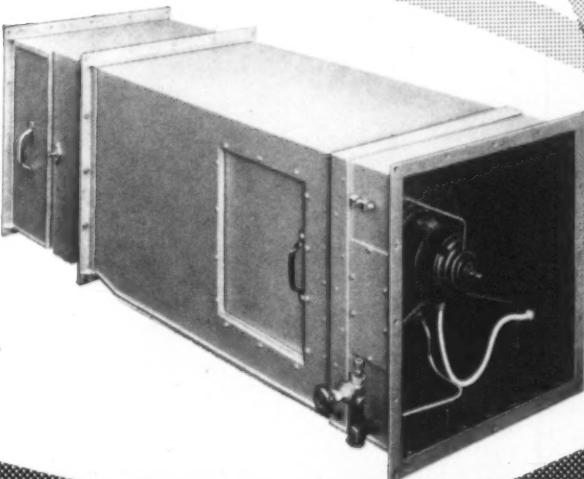
Made in a variety

of sizes up to:-

10,000-15,000 c.f.m.

absorbing a total

of 1.75 H.P.



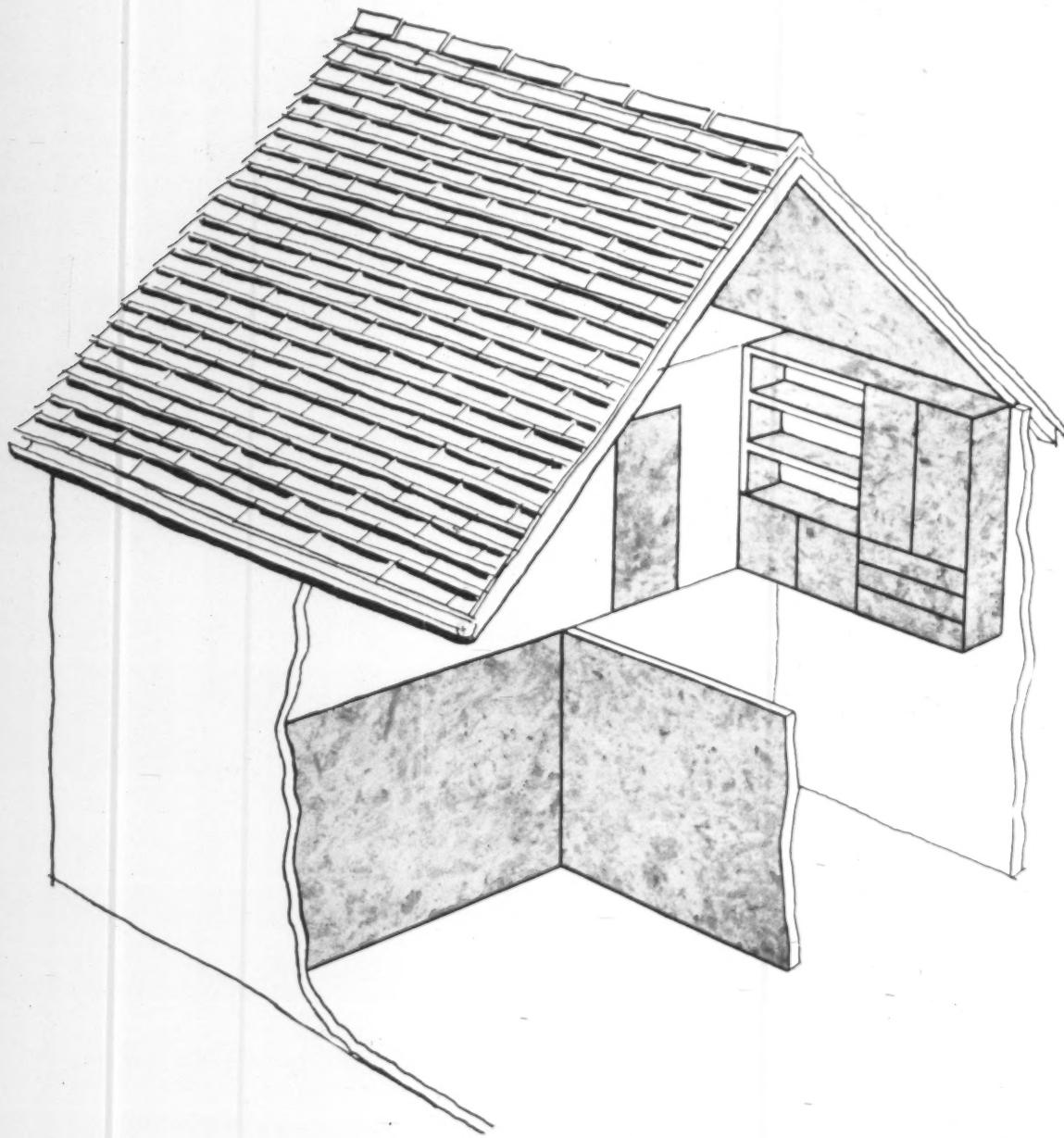
A SELF CONTAINED UNIT easily
incorporated into existing ducting

COMPACT - ADAPTABLE - INEXPENSIVE TO INSTALL AND OPERATE

- Does not require pumps, water strainers or similar ancillary equipment.
- Water is taken direct from the mains at normal pressure.
- No plant house, foundations or floor space required.
- Incorporated easily into existing discharge ducting.
- Lightweight, small and compact.
- Range of sizes to meet individual requirements.
- Automatic control by either dew-point or humidistat.
- Can incorporate own fan, humidifier, air cleaner humidifier.
- Low capital and running costs.
- Can be duplicated in branch mains for individual room control.
- No tank or dirty water load necessary—operates continually with fresh water, thus avoiding possible build-up of bacteria.
- Supplied to hospital authorities.
- Eliminates maintenance of spray nozzles, tanks etc.

Member of the Bentley Group

MELLOR BROMLEY (AIR CONDITIONING) LTD - St. Saviours Road, Leicester
Telephone: Leicester 38161. Telegrams: CONDITION LEICESTER



the board you can trust — to do so many jobs, so well

weyroc

one of the world's great man-made materials

THE AIRSCREW COMPANY & JICWOOD LTD
WEYBRIDGE · SURREY

TELEPHONE: WEYBRIDGE 2242/7

WPS 85

if you know what's best
for underlining asphalte
you'll specify
Black Sheathing Felt

Talk to any of the country's most able and experienced asphalters about the ideal underlining for hot asphalte. They know that it is Black Sheathing Felt—and they'll give you reasons as well. Good reasons, like B.S.F. being the perfect keying medium, able to resist cracking and creeping, and giving complete isolation from the substructure. Experience proves, too, that B.S.F. handles pleasantly, lays easily, and doesn't wrinkle, shrink or absorb moisture. After that . . . it's up to you to specify asphalte laid on

Black Sheathing Felt

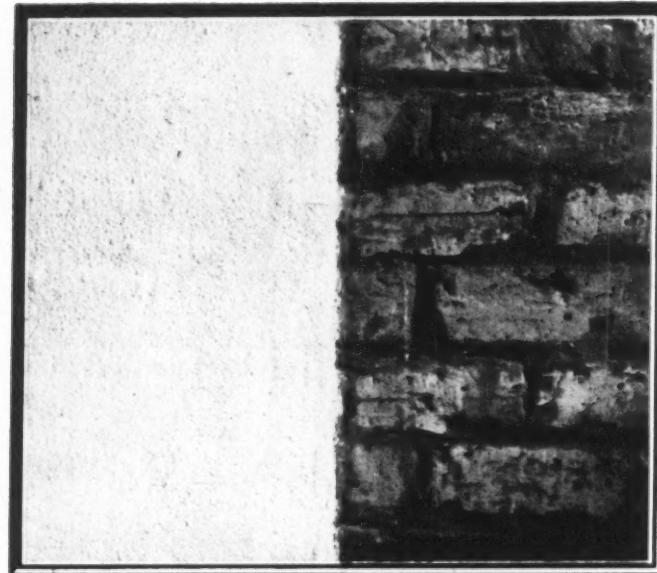
for your job

MANUFACTURED BY:

Permanite Ltd., London
John Erskine Ltd., Belfast
John Rogers Ltd., Belfast
D. Anderson & Son Ltd., Manchester
Engert & Rolfe Ltd., London
Robt. McCalmont & Sons Ltd., Belfast
F. McNeil & Co. Ltd., London



A
COAT
OF
STONE.



Above: 2 coats of Silexine on old brickwork

■ ■ ■ **Beautifies and Protects New Buildings
and Creates New Buildings from Old**

SILEXINE is ideal for Stucco, Cement, Brickwork, etc. on the exterior of buildings giving a * water repellent, durable textured finish with CHARACTER and EYE APPEAL.

SILEXINE hides imperfections and flaws, disguises pointing, improves bad or cracked rendering and is water repellent.

Available in 13 permanent colours.

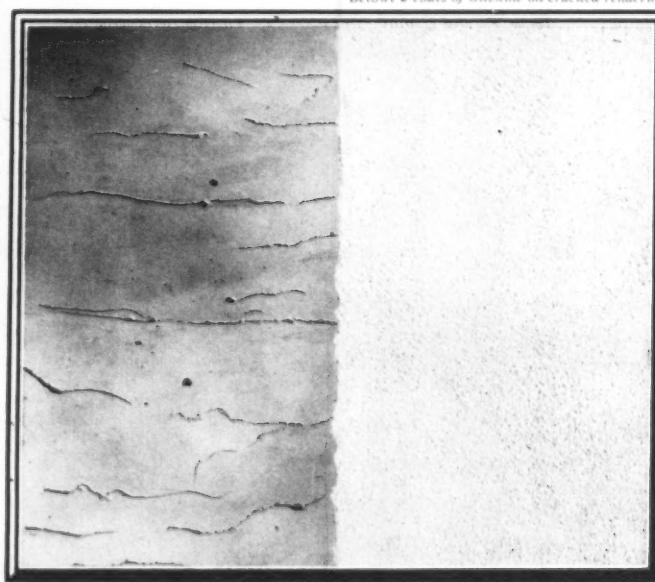
* Building Research Report available on application.



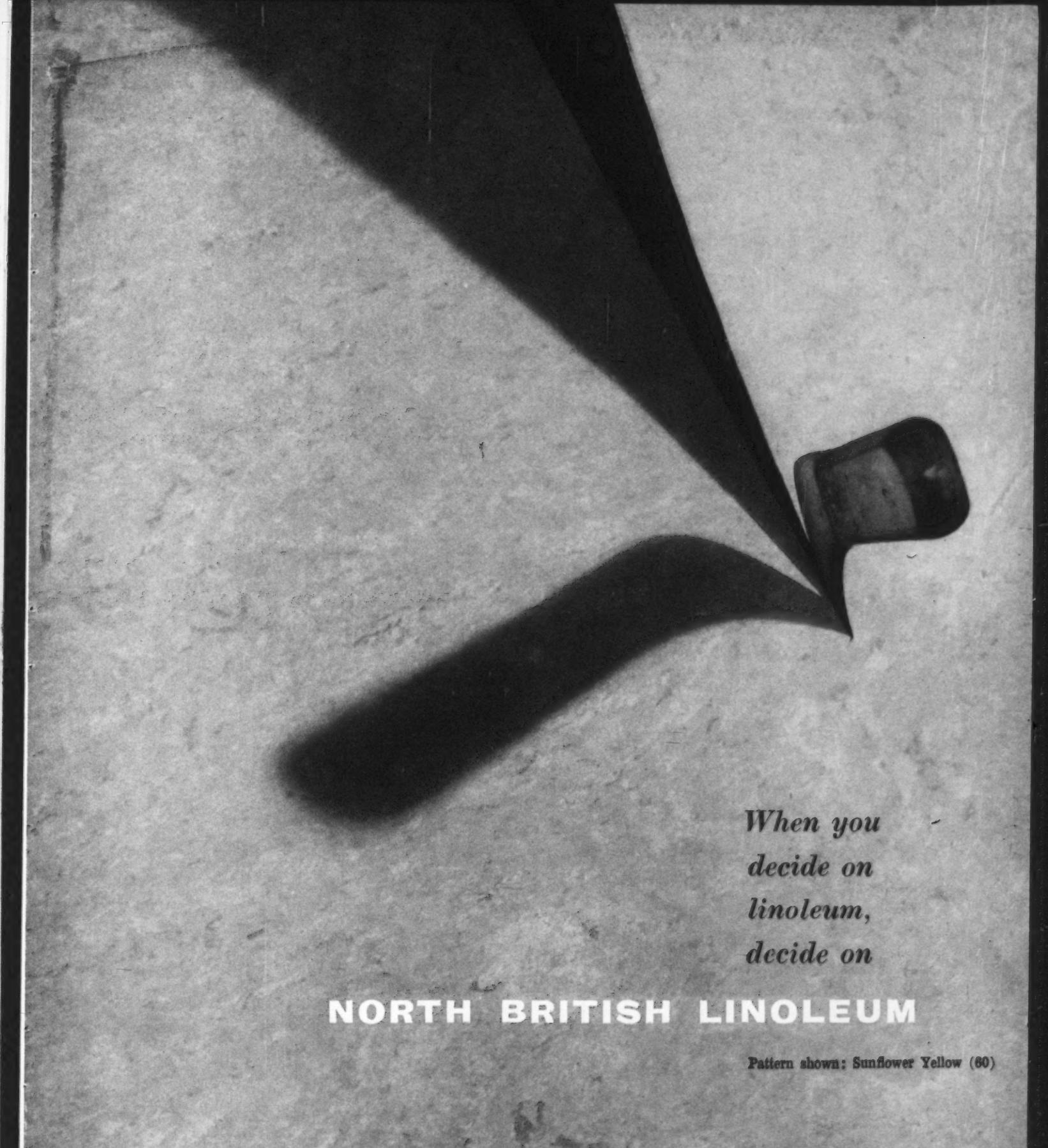
Full details, shade card and applied sample
on request to the sole manufacturers

DENTON EDWARDS PAINTS LTD.

Abbey Road, Barking, Essex. R1P 8LW



Below: 2 coats of Silexine on cracked rendering

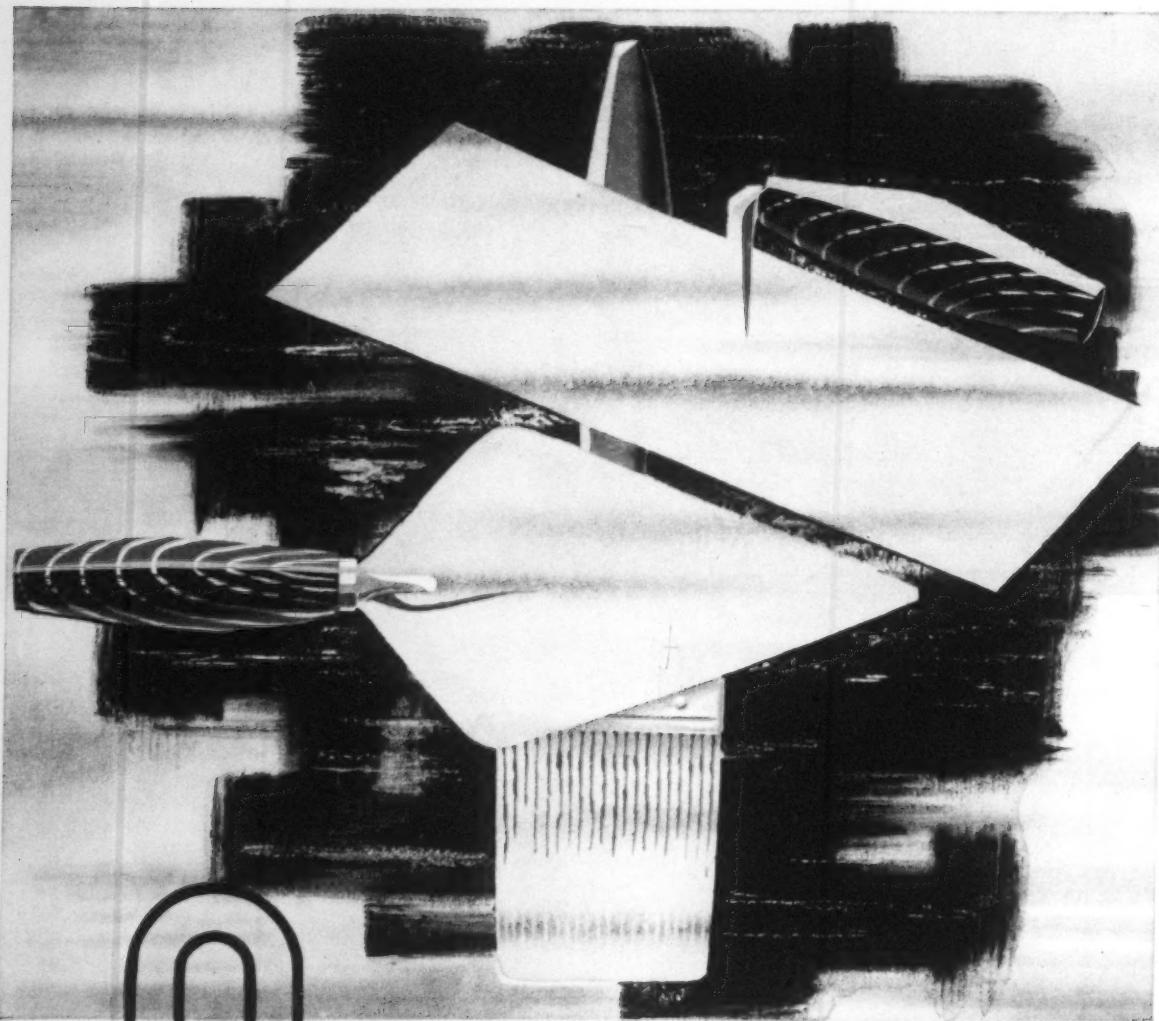


*When you
decide on
linoleum,
decide on*

NORTH BRITISH LINOLEUM

Pattern shown: Sunflower Yellow (60)

NORTH BRITISH LINOLEUM CO., LTD. CLEPINGTON ROAD, DUNDEE Telephone Dundee 85288
London Office: 11-12 Foster Lane, London EC2 Telephone MONarch 1933



THERE ARE

9

DIFFERENT

CEMENTONE PRODUCTS

including decorative finishes and cement additives. Technical advice or information is available on request.

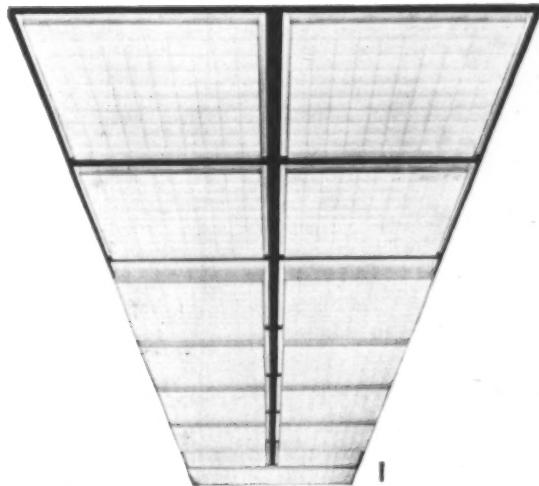
Joseph Freeman
Sons & Co Ltd
Cementone Works
London SW18
Phone: VANDyke 2432



Cementone No 1
Cementone No 2
Cementone No 3
Cementone No 5
Cementone No 6
Cementone No 7
Cementone No 8
Cementone No 9
Cementone No 10

Permanent Colours for Cement
Waterproofing Powder
Transparent Waterproofer
Concrete Floor Binder
Waterproof Flat Finish
Flat and Gloss Finishes
Concrete Hardener
Waterproof Stoneface Composition
Surface Tinter

Light diffusion in plastic materials



1 Elcoplas 'Modulas' lighting louvres provide the architect and light fittings designer with a system of louvres designed either to co-ordinate with typical opening sizes for standard ceiling grid dimensions, or alternatively to be suitable for fabrication into any desired size.

2 'Ecoplas' louvre $\frac{1}{2}$ in. mesh $\times \frac{1}{2}$ in. depth, diamond or square mesh. Registered Design No. 873594.

3 'Ecoplas' louvre $1\frac{1}{8}$ in. mesh $\times 1$ in. depth, diamond or square mesh.

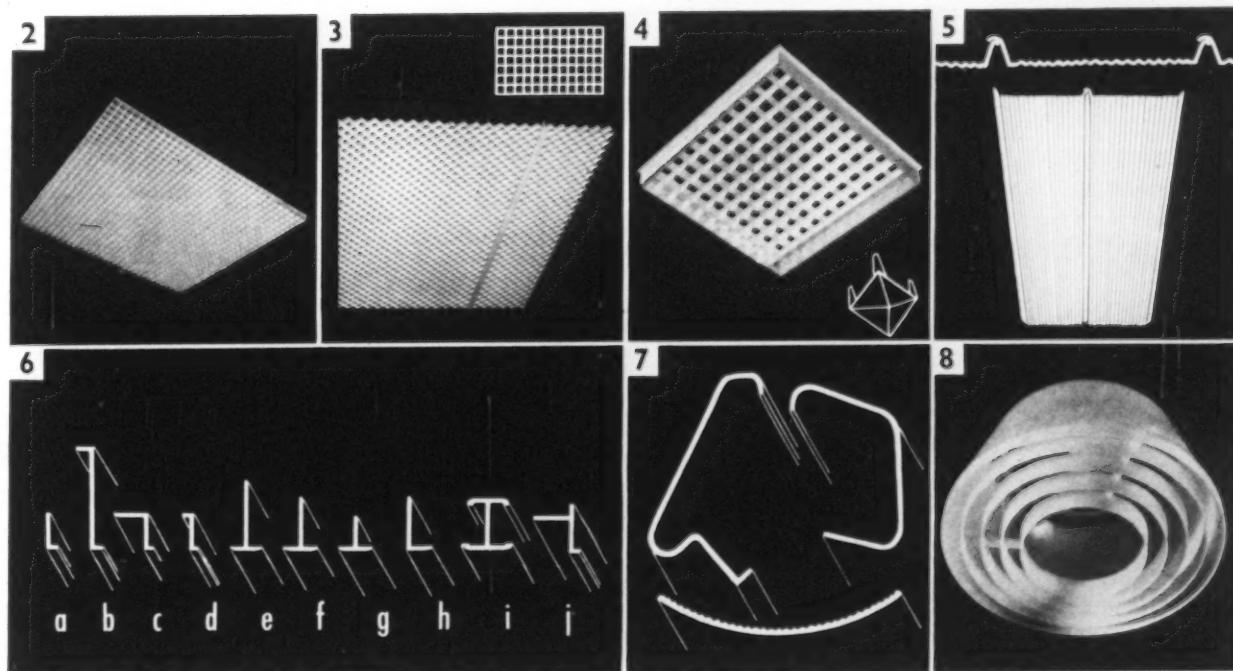
4 'Ecoplas' modulus louvre 2 in. mesh $\times 1\frac{1}{2}$ in. depth, diamond or square mesh, illustrated with plastic 'Z' framing. Coloured pyramids in five different colours available for fitting into the cells.

5 'Plasmatic' diffuser panels available in opal, pearl, clear. Interlocking panels are $10\frac{1}{2}$ in. centre to centre, and are supplied in maximum lengths of 4 ft. or less to order.

6 Plastic supporting sections.

7 Typical sections of plastic extruded diffusers, as supplied to lighting fitting manufacturers.

8 Moulded plastic shade and louvre as produced to the design of Messrs. Hume Atkins & Co., Ltd. (Registered Design No. 880153).



ELCO PLASTICS LTD

DESBOROUGH PARK ROAD
HIGH WYCOMBE, BUCKS.
Telephone: High Wycombe 4111/4

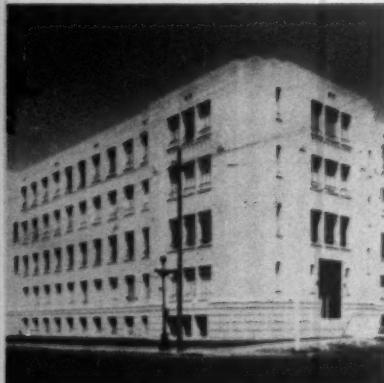
DOLPHIN HOUSE
SALISBURY - S. RHODESIA

Architects:
W. D'Arcy Cathart & Son



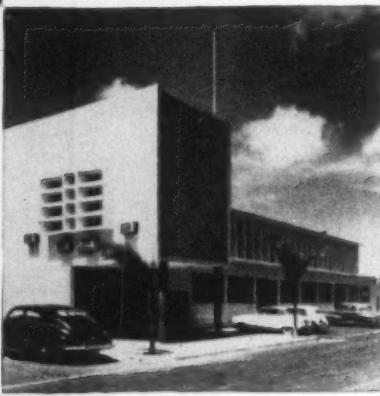
TOWN COUNCIL OF
CUREPIPE BUILDING - MAURITIUS

Architects:
Boule-Lagesse & Schaub



K.L.M. BUILDING - CURACAO

Architect:
Alec Van Ness



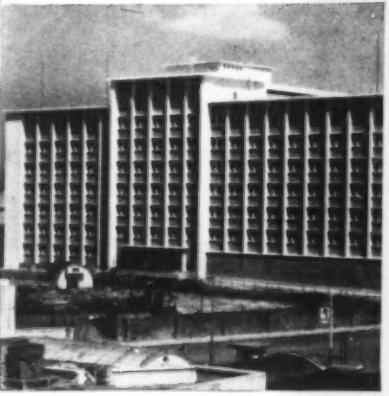
BRITISH COLUMBIA PROVINCIAL
GOVERNMENT OFFICES - VICTORIA

Architects:
Provincial Government
Architectural Department



SHELL BUILDING - LAGOS

Architects:
Walker, Harwood & Cranswick



POLICE HEADQUARTERS
HONG KONG

Architects:
P. W. D. Hong Kong



NGEE ANN KONGSI FLATS
SINGAPORE

Architect:
Ng Keng Siang



ADMIRALTY FLATS
MOUNT AUSTIN - HONG KONG

Architects:
Palmer & Turner



ASIATIC POLICE QUARTERS
KOWLOON

Architects:
P. W. D. Hong Kong

ALEXANDRA HOUSE - HONG KONG

Architects:
Spence, Robinson & Partners



AFRICAN LIFE BUILDING
BULAWAYO - S. RHODESIA
Architects:
MacGillivray & Son



R.N.V.R. BUILDING - HONG KONG
Architects:
P. W. D. Hong Kong



WORKING CLASS FLATS
HONG KONG
Architects:
Chan & Lee

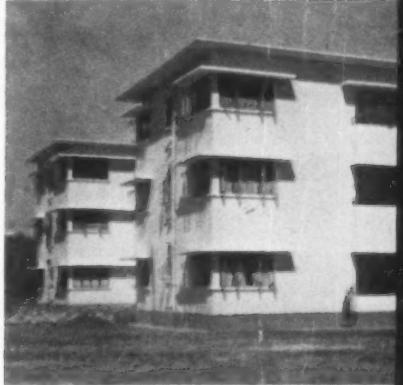


OFFICES FOR TRANSVAAL
& CHAMBER OF MINES
JOHANNESBURG
Architects:
K. E. F. Gardiner &
MacFabgden

HOLLANDSCHE BANK
UNIE - CURACAO
Architect:
Ben Smit



FLATS FOR
SINGAPORE HARBOUR BOARD
Architects:
Swan & McLaren



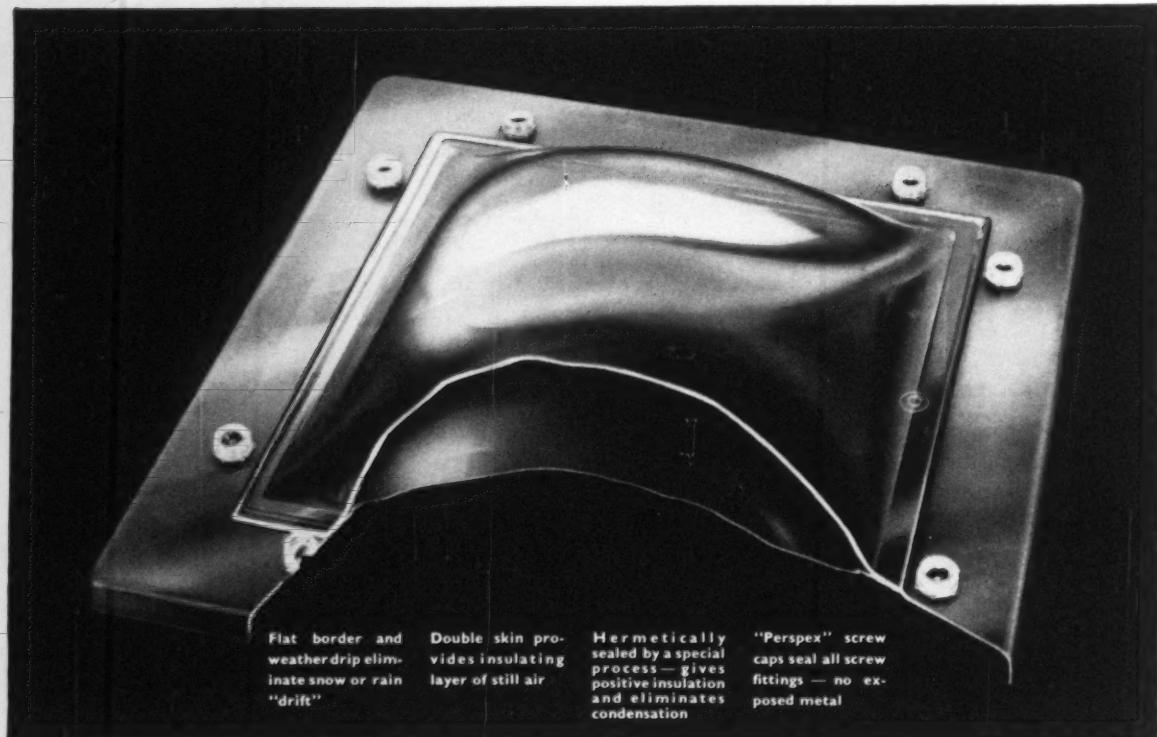
BANK OF CHINA
SINGAPORE
Architects:
Palmer & Turner

**Overseas
outlook through...**

CRITTALL WINDOWS



THE CRITTALL MANUFACTURING CO. LTD · BRAINTREE · ESSEX · BRANCHES & DEPOTS THROUGHOUT THE COUNTRY



Flat border and
weatherdrip elim-
inates snow or rain
"drift"

Double skin pro-
vides insulating
layer of still air

Hermetically
sealed by a special
process — gives
positive insulation
and eliminates
condensation

"Perspex" screw
caps seal all screw
fittings — no ex-
posed metal

designed daylight *plus* insulation
at low cost!

CORDAR

ROOF LIGHTS

PATENTS PENDING

MAXIMUM LIGHT TRANSMISSION
EASILY INSTALLED
NO MAINTENANCE

An insulated roof light is complementary to an insulated roof and CORDAR double skin 'Perspex' domes give a "U" value of .42 BTU/sq.Ft./Hr°F—the ideal answer to the problem of THERMAL EFFICIENCY. CORDAR provide maximum light transmission, eliminate condensation, and cut out maintenance with their exclusive featherweight design. A wide range of sizes, circular, square, rectangular.

Price Example:
3 ft. x 3 ft. dome
Single Skin—£9.0.0
Double Skin—£13.15.0

United Kingdom Atomic Energy Authority, Chapelcross Works, Annan, Dumfriesshire.
Extension to Workshop and Stores Building.

Consulting Engineers: Messrs. Merz and McLellan, Newcastle upon Tyne.
Architects: Messrs. L. J. Couves & Partners, F.F./A.A.R.I.B.A., Newcastle upon Tyne.



CORDAR LIMITED 34 Dean St., Newcastle upon Tyne 1. Telephone: 26214

P4405



The OWNER says—

Using Arcon steel structures avoids so much of the time lag in building programmes. High efficiency, assembly line techniques with rapid erection ensure occupation with the minimum of delay.

The ARCHITECT says—

With their convenient grid systems and big range of standardized components, Arcon structures simplify planning — yet give me full scope for functional and aesthetic design.

The BUILDER says—

Prompt delivery of components, and speedy, trouble-free erection methods — no wonder I get an Arcon job done in record time!

THEY ALL BENEFIT FROM ARCON

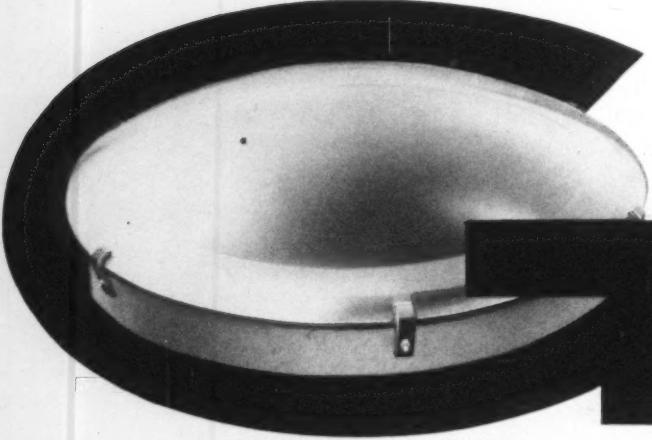


SIMPLIFIES BUILDING

TAYLOR WOODROW (ARCON) LIMITED
41 WELBECK STREET, W.1. TEL: HUN 6666



*The sponsor companies forming the Arcon Group are: IMPERIAL CHEMICAL INDUSTRIES LTD · STEWARTS AND LLOYDS LTD
THE UNITED STEEL COMPANIES LTD · THE CRITTALL MANUFACTURING CO. LTD · TAYLOR WOODROW (ARCON) LTD*



glass roof domes are best!



- **pass ample light**
- **last for ever**
- **are fire resistant**
- **need no maintenance**
- **never lose their shape**



Houghton Modern Secondary School, Darlington.
Architect: Borough Architect, County of Darlington.
Contractor: Edgar Lawson Ltd.

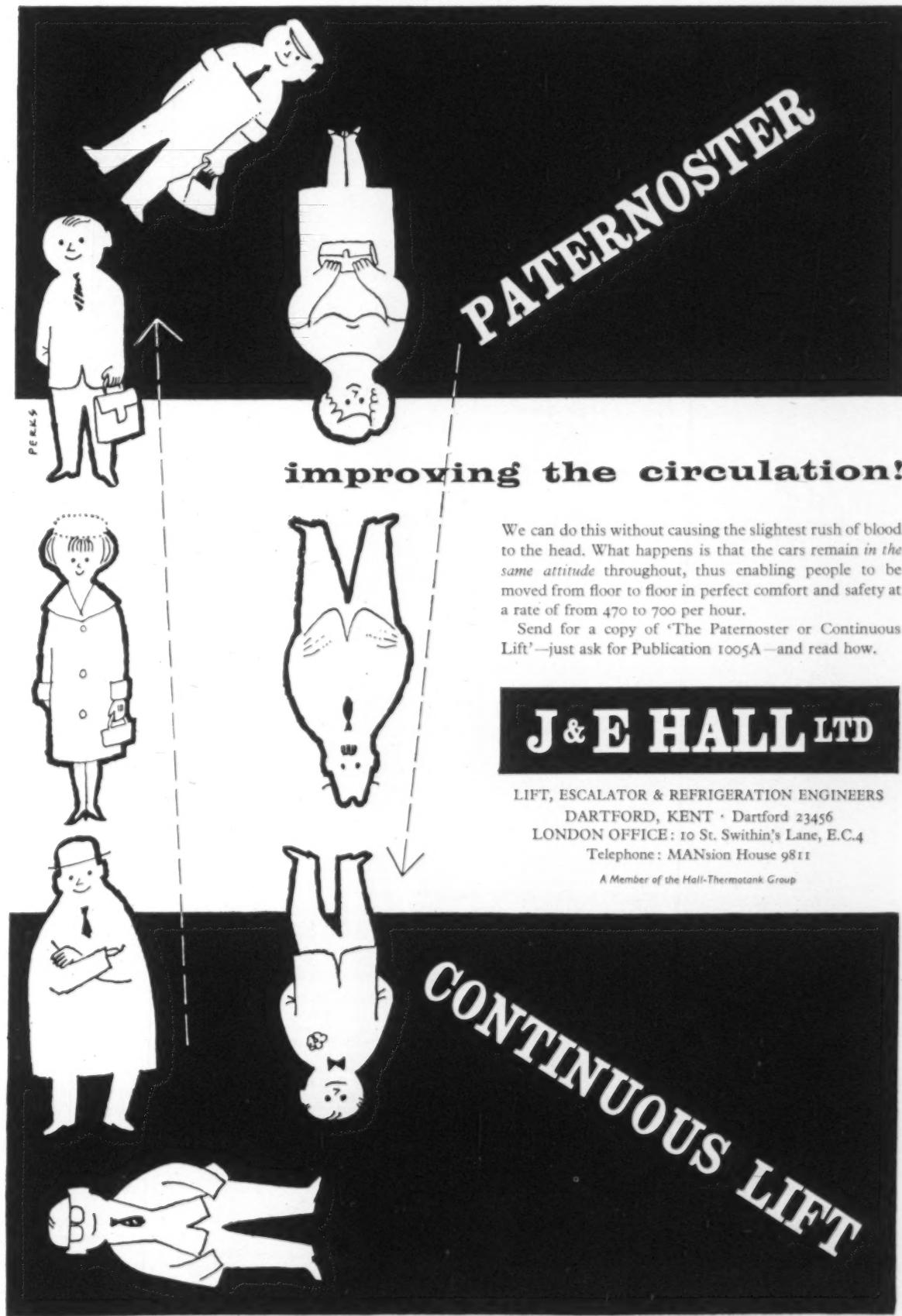
Glass roof domes have many advantages over other forms of roof lighting... they pass ample light, last for ever and are fire resistant. Glass roof domes are leak-proof, and easy to fix on metal, wood or concrete curbs; they need no maintenance and never lose their shape.

specify **GLASS** roof domes

Glass Benders Association

6 MOUNT ROW, LONDON, W.1. MAYFAIR 8334

Think of glass roof domes
for your next building.



AP 368

PATERNOSTER

improving the circulation!

We can do this without causing the slightest rush of blood to the head. What happens is that the cars remain *in the same attitude* throughout, thus enabling people to be moved from floor to floor in perfect comfort and safety at a rate of from 470 to 700 per hour.

Send for a copy of 'The Paternoster or Continuous Lift'—just ask for Publication 1005A—and read how.

J & E HALL LTD

LIFT, ESCALATOR & REFRIGERATION ENGINEERS

DARTFORD, KENT • Dartford 23456

LONDON OFFICE: 10 St. Swithin's Lane, E.C.4

Telephone: MANSION HOUSE 9811

A Member of the Hall-Thermotank Group

CONTINUOUS LIFT

Architectural Concrete by

Atlas Stone

1 WINDOWWALL
2 REconstructed STONE
3 EXPOSED AGGREGATE CLADDING PANELS
4 B. S. BUILDING BLOCKS
5 SPECTRA-GLAZE
6 QUICKBUILD
7 PRECAST CONCRETE ROOF AND FLOOR UNITS

1 WINDOWWALL
A glazing frame made from superior quality pressed concrete subjected to high frequency vibration in manufacture, which with reinforcement in the courses can be built into large areas of glazing.

2 REconstructed STONE
A complete service is available so that details can be taken off architects' drawings, stone produced and fixing sub-contracts undertaken.

3 EXPOSED AGGREGATE CLADDING PANELS
Atlas Stone have specialised in the production of these units for some time and are confident that they can offer material second to none on the market.

4 B. S. BUILDING BLOCKS
One of the largest single block making units is operating at Greenhithe Works producing 1000 yards per day.

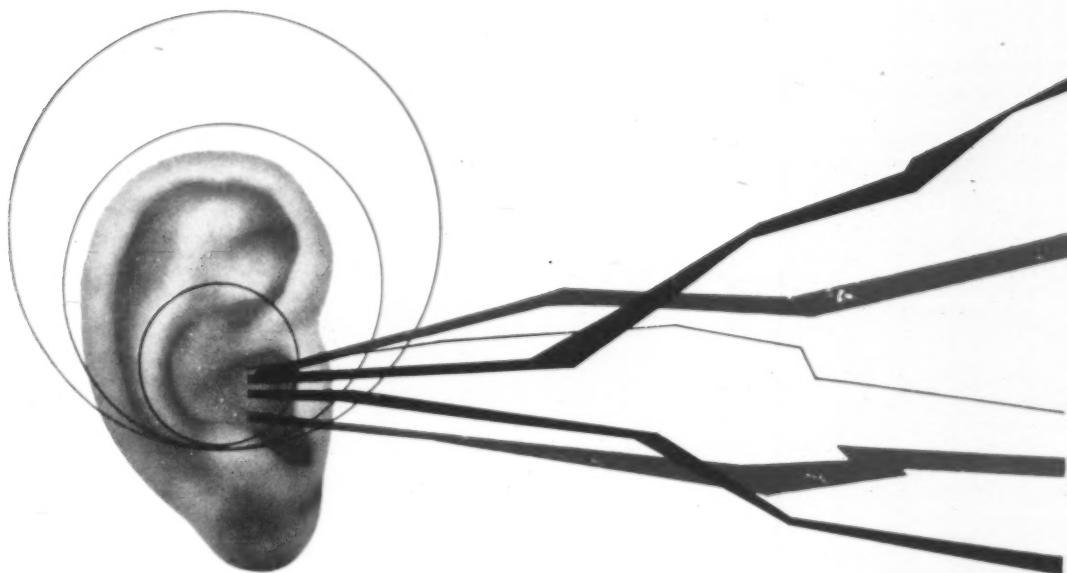
5 SPECTRA-GLAZE
Atlas Stone have pioneered the introduction to the U.K. of this range of blocks with a semi-glazed coloured finish.

6 QUICKBUILD
A new block which can make material savings in building costs.

7 PRECAST CONCRETE ROOF AND FLOOR UNITS
Illustrate the capacity for producing structural concrete to specification.
Atlas Stone are currently making the OMNIA floor under sub-license.



Artillery House, Artillery Row, London, S.W.1. Tel: ABBey 3081-2-3-4. Grams.: Atlastonco, Sowest London
Works at: GREENHITHE . STROOD . MELDRATH . CAMBRIDGE . SHORNE . RYE (SUSSEX) . GREAT YARMOUTH



**disturbed about decibels?
then think about
THISTLE ACOUSTIC PLASTER**

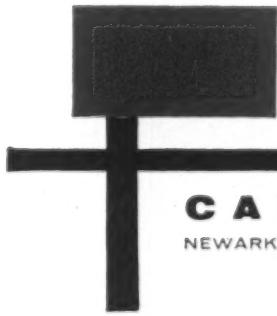
—this highly-porous, sound-absorbing, open-textured Plaster provides a practical means of minimizing echo and effectively controlling excessive sound reverberation in all public and private buildings.

A product of Cafferata & Co. Ltd., who have been making high-quality Gypsum Plasters for nearly a century, "THISTLE" Acoustic Plaster is a scientifically blended combination of light-weight materials with a Gypsum Plaster binder.

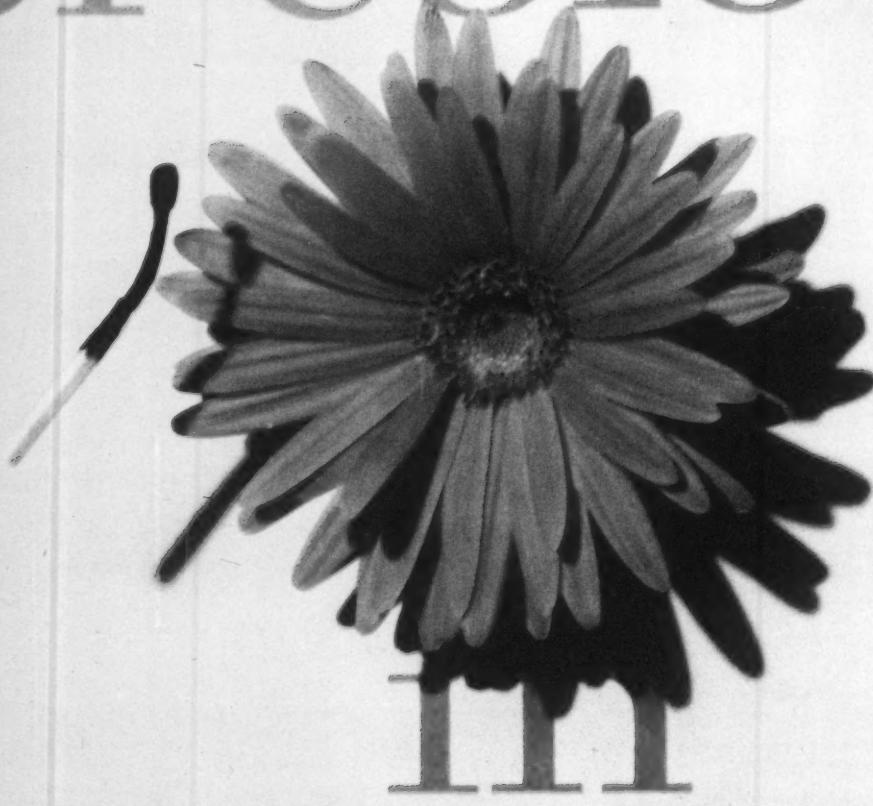
"THISTLE" Acoustic Plaster is a finishing material and is applied in exactly the same way as conventional plasters. Nothing other than water need be added on the site.

Durable and non-combustible, this sound-absorbing Plaster is particularly suitable for use on curved surfaces, such as vaulted ceilings, domes and similar structures.

We should like to tell you more about our Gypsum products—or to advise on any of your plastering problems.



glass
for
depth
of colour



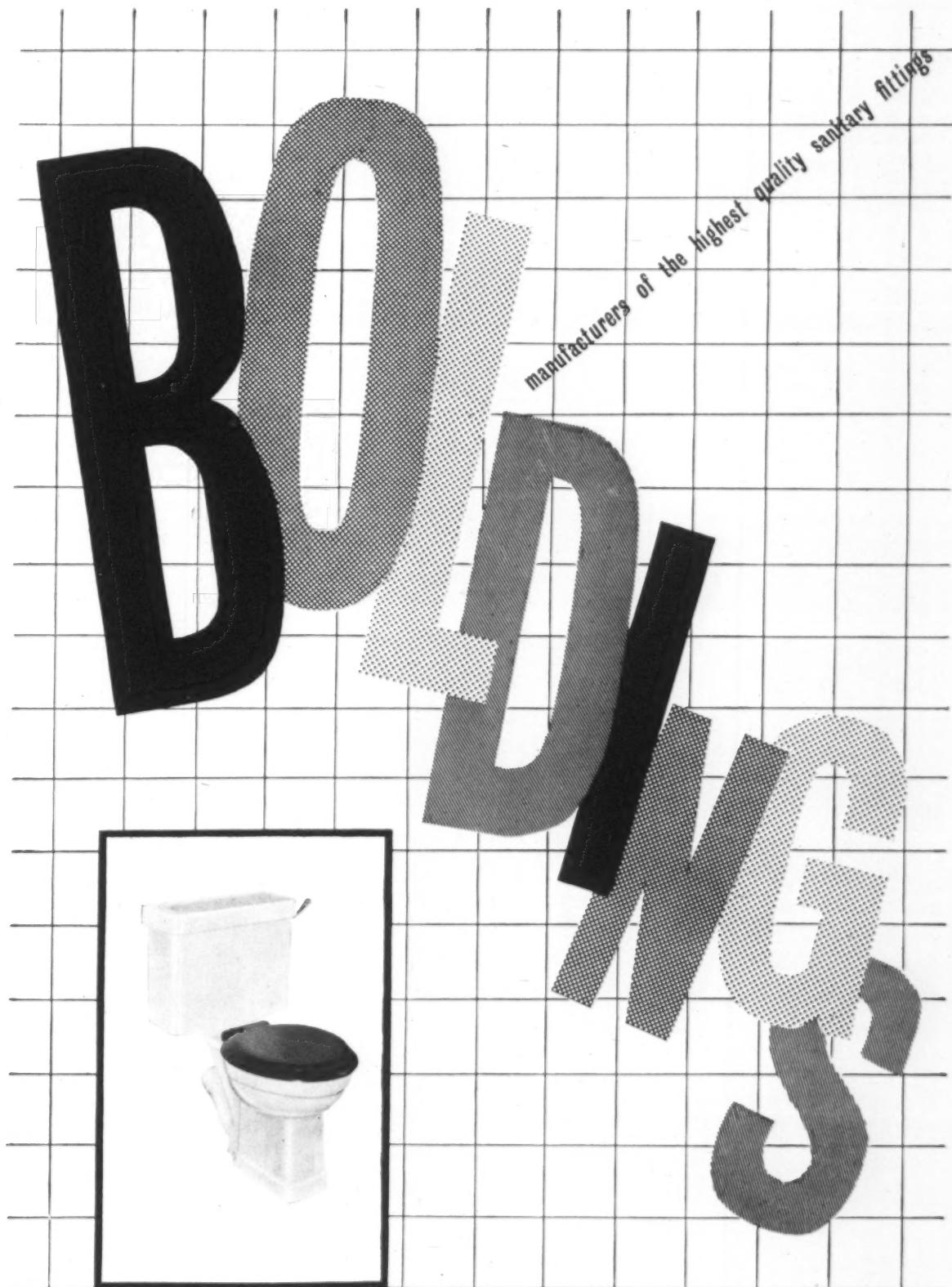
in
cladding

PILKINGTONS' GLASS CLADDING MATERIALS INCLUDE "ARMOURCLAD" AND "MUGROGLASS"

For full information write to the Technical Sales and Service Department, Pilkington Brothers Limited, St. Helens, Lancashire. Tel: St. Helens 4001;
LONDON OFFICE: Selwyn House, Cleveland Row, St. James's, S.W.1. Tel: Whitehall 5672-6.

Supplies are available through the usual trade channels. "ARMOURCLAD" is a registered trade mark of Pilkington Brothers Limited.





JOHN BOLDING & SONS LIMITED

Grosvenor Works Davies Street London W1 Telephone MAYfair 6617

Renaissance

*a new dimension in
translucent vinyl flooring . . .
with all the beauty and
many times the life of natural
marble. Renaissance:
an inspiring design in*



AMTICO

*probably the most
beautiful flooring the
world has ever known*

Imagination takes the floor—and wall—when Renaissance takes your eye. And this superlative Amtico quality is, indeed, fast taking the eye of architects and designers and decorators. Here's more than the subtle colours, the natural effects, of real marble. Here's a *depth*, a translucence, that only Amtico solid vinyl can offer. And wear. Long, hard wear. Tests show that Renaissance will outlast marble forty times. This despite such modern-day things as *stiletto heels* and abrasive chemicals. Like all Amtico solid vinyl flooring, Renaissance is resilient: therefore it gives under foot, and is comparatively quiet in use. One thousand eight hundred square feet of Renaissance have just been laid in the foyer and lounge of the Royal Hibernian Hotel in Dublin, to the design of John Siddeley. And at the 1960 Ideal Home Exhibition, Amtico flooring was selected for the huge Radiation stand and for the flooring in the kitchen, living room and family room in the American house. It handsomely adorned the walls of the bathroom in the Georgian House. Launched in Britain at the beginning of the year, Amtico is becoming accepted far and wide. It's being talked about. People are discussing its properties. Wear . . . resilience . . . translucency . . . colour . . . and not least, *designs*. Plain, Terrazzo, Wood Grain, Cork, Eldorado Metal, Stardust. And in addition, Amtico can repeat just about any element of design from wallpaper, fabric, insignia or photographs. You may already have heard Amtico discussed. Now: see the marvel itself in displays and laid floors and walls which show the complete range made by the world's largest producers of solid vinyl. Humasco Limited hold stocks and offer a technical and design service. Please come. Ring CITY 1056, or write to the address below, suggesting when you may be expected.

HUMASCO LIMITED • VINYL COVERINGS • 23 OLD BAILEY • LONDON • EC4

PLIMBER WOOD CHIPBOARD



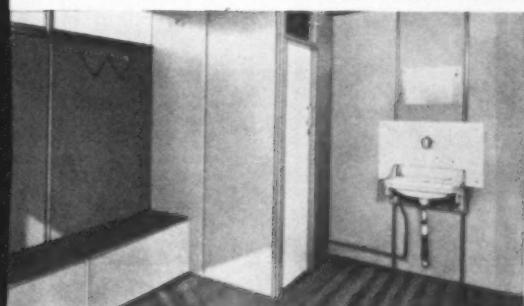
PLIMBER FOR COUNTERS & PARTITIONS



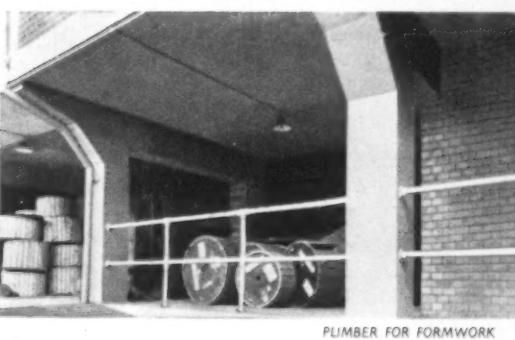
PLIMBER FOR ROOF DECKING



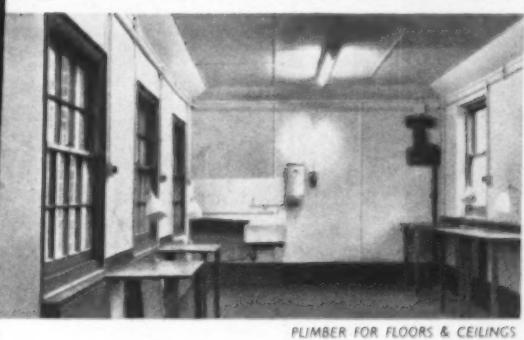
PLIMBER FOR GRAIN STORAGE



PLIMBER FOR LOCKERS & LININGS



PLIMBER FOR FORMWORK



PLIMBER FOR FLOORS & CEILINGS

***There's plenty of scope
for Britain's most versatile Chipboard***

With its increased strength, wear resistance, and water resistance, Plimber is a highly satisfactory sheet material for such heavy-duty uses as industrial flooring, racking for engineers' stores, concrete formwork above or below ground, and a great many other load-bearing purposes; equally it is ideal for making cupboards, fitments or furniture, as well as partitioning, lining and panelling.

PLIMBER WOOD CHIPBOARD

Standard size 8ft. x 4ft.
Maximum size 16ft. x 4ft.

PLIMBER WOOD CHIPBOARD

Thicknesses $\frac{1}{2}$ in. & $\frac{3}{4}$ in.
Density 45 lbs/cu. ft.

PLIMBER WOOD CHIPBOARD

Grades : Standard PLIMBER 45
Wood Veneered PLIMBER

For technical literature, prices, and names of stockholders,
please write or telephone :—

BRITISH PLIMBER LIMITED

Rainham, Essex.

Telephone : Rainham 5262



Dynamic
NEW
lighting...

BENJAMIN
REGD.

for those
who
design
with
light



The entire
louvre
swings down
for cleaning
and maintenance.



'Flo-line' combines the outstanding efficiency of Benjamin fluorescent lighting with exciting and original design of an outward simplicity, making for easy harmony with decorative schemes.

The minicell louvre is combined in one unit with translucent side panels to make an all plastic diffuser of entirely new characteristics.

Comfortable yet cheerful seeing conditions are ensured, with high illumination values.

Controllable upward light. Ceiling or pendant mounting. Access to lamps and control equipment is quick and easy. Side panels are double walled for strength.

Apparent depth of fitting only $3\frac{1}{2}$ in. Total depth $4\frac{1}{2}$ in.
Half inch cube spaces in louvre give 45° cut-off.

Installation accessories include couplers for continuous line arrangements and channel junction boxes for geometrical layouts.

*Uses 2 x 5 ft. 80-Watt lamps.
Quick or switch start control gear.*

better lighting by

BENJAMIN

THE BENJAMIN ELECTRIC LIMITED · TOTTENHAM · LONDON N.17
Tel: Tottenham 5252. Grams: Benialect, Southgate, London

BIRMINGHAM: 5 Corporation Street · Tel: Midland 5197

LEEDS: 49 Basinghall Street · Tel: Leeds 25579

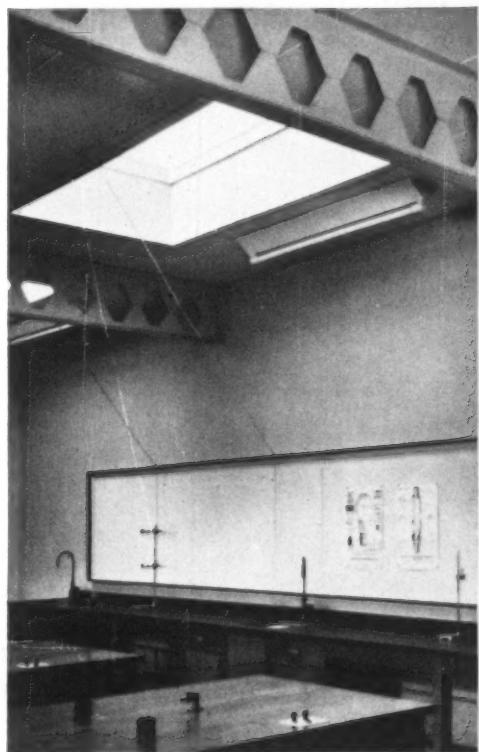
BRISTOL: Royal London Building, Baldwin Street · Tel: Bristol 28406

Smee's B158

GOOD DAYLIGHT WORKING CONDITIONS FOR PUPILS AT THIS SCHOOL...



— THROUGH DOMELIGHTS
MADE FROM
OPAL 'PERSPEX'



GOOD, NATURAL LIGHTING is essential in school classrooms. That is why the classrooms of Hadrian County Secondary Modern School at Wallsend have domelights made from Opal 'Perspex' acrylic sheet. Because Opal 'Perspex' is used, these domelights transmit an evenly diffused daylight, which benefits both pupils and staff.

'Perspex' is inexpensive to install and saves money on artificial lighting. It is light, tough, easy to handle. It is unaffected by the severest weather conditions and withstands the corrosive atmospheres of industrial and marine areas. Undoubtedly, Opal 'Perspex' is the ideal material to use where diffused daylight is needed to ensure good working conditions.

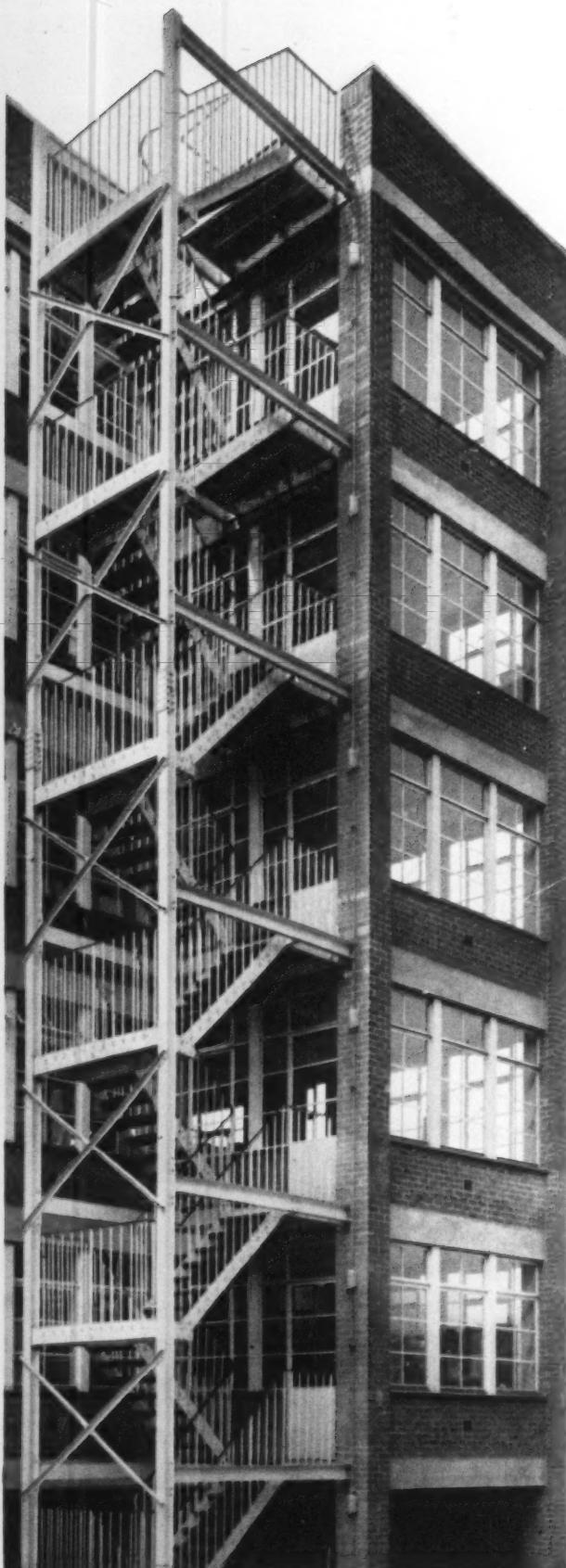
Domelights made from Opal 'Perspex' by Henry Hope and Sons Ltd., Smethwick, on the roof of Hadrian County Secondary Modern School built for the Borough of Wallsend Education Committee.
Architects: Messrs. Reavell & Cahill, F.R.I.B.A., Alnwick.
Contractors: Messrs. Alex Anderson (Contractors) Ltd., Newcastle-upon-Tyne.

PERSPEX

'Perspex' is the registered trade mark
for the acrylic sheet manufactured by I.C.I.

IMPERIAL CHEMICAL INDUSTRIES LIMITED • LONDON • S.W.1





Haywards metal staircases

Haywards Fire Escape Staircases were supplied and fixed on this new building for Longleys and Hoffman, Birmingham.

Haywards staircases are constructed of suitable rolled steel sections with cast iron treads and landings of non-slip pattern to ensure minimum obstruction of light and adequate stability.

HAYWARDS HAVE SUPPLIED
THE BUILDING TRADE FOR
OVER 150 YEARS.

*Architects: C. F. Lawley Harrod,
F.I.A.A., A.M.I.Struct.E.*

*Contractors: Messrs. C. Green
& Sons Ltd., Birmingham.*

HAYWARDS LTD

HAYWARDS LIMITED
UNION STREET LONDON S.E.1

Telephone: Waterloo 6035 (Private Branch Exchange)
Grams: Haywards Bros. Sedist London

PS063

**You just can't have
it all ways...**



A fully illustrated booklet, published in the interest of more and better hygiene and sanitation is available on request.

Ceramic **Glazed Fireclay** is only one of a number of materials now used in the manufacture of modern sanitary ware. None is without some shortcoming or limitation and all have strong points to recommend them. You just can't have it all ways. But the indisputable fact remains that, by and large, the outstanding qualities of Ceramic **Glazed Fireclay** are such as to place it right in the forefront of all sanitary ware. Consider its sturdiness, its smooth, hard, easily-cleaned high-lustre ceramic glaze: its resistance to violent extremes of heat and cold. It is impervious to grease, resistant to acids and alkalis. It will last a lifetime and the installation of costly replacements is virtually eliminated. When sanitary ware is sought that is capable of standing up to the heaviest demands, in industry, schools, hospitals, hotels, restaurants, public institutions, to mention but some of its numerous spheres of application, you cannot do better than specify Ceramic **Glazed Fireclay**.

fireclay

SANITARY FIRECLAY TECHNICAL BUREAU
57 GREAT GEORGE STREET LEEDS 1



SPECIFY SANITARY FIRECLAY WARE FOR PERMANENT SATISFACTION

PLYGLASS

makes it possible

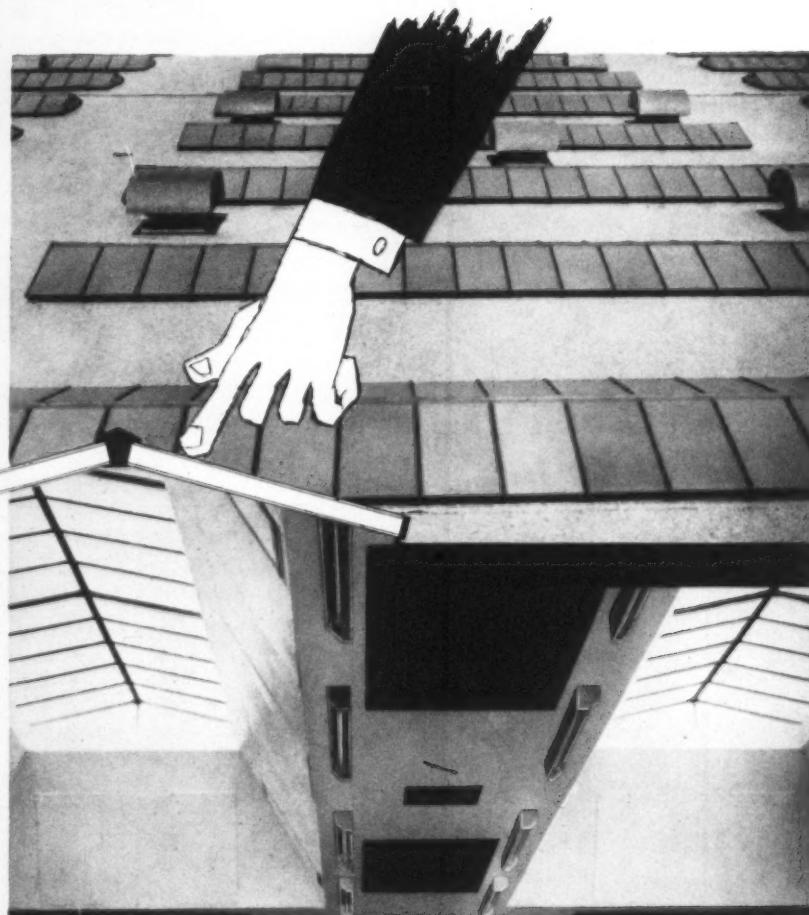
You want light — as much as you can get — but without glare or shadow... you need thermal insulation to keep expensive Winter heat in and stifling Summer heat out... and you must keep construction costs down — right down!

Can the modern roof-designer reconcile these opposing factors?



Yes — with 'PLYGLASS' Diffusing Double-glazing Units!

'PLYGLASS' Diffusing Double-Glazing Units — consisting of clear glass sheets with a glass gauze interlayer — cut Winter heat loss and Summer heat gain. They eliminate both glare and shadow, and provide double glazing insulation in a single set of glazing bars.



Interior and Exterior Views at Ilford Films Ltd., Chief Architect/Planner Basildon Development Corporation A. B. Davies A.R.I.B.A., A.A. Dipl.

specify
PLYGLASS

DIFFUSING

DOUBLE-GLAZING UNITS

For further information write to:

**PLYGLASS LIMITED
EDINBURGH WAY HARLOW ESSEX**

Telephone: 24271 Cables: PLYLUX HARLOW

'PLYGLASS' is the registered trade name of Plyglass Limited.



Enter—a breathtaking advance in bathroom luxury

Daring advances in architectural design have found expression in recent years. And now—at last—a single idea heralds a new era in bathroom design.

This bold conception, inspired by Formica Ltd—the VANITY UNIT—can combine in one space-saving advance, handbasin, taps, dressing table drawers, mirrors, towel rail, strip lighting... beautifully surfaced in the colourful range of Formica decorative laminates... all so easy to keep clean.

With Formica decorative laminates you can design your own Vanity Units to blend exactly with your overall plan... or you can choose from a wide range already produced by over 40 manufacturers. Full information and lists of manufacturers are freely available on request.

FORMICA
VANITY

units regd.
®

FORMICA - THE FINEST OF ALL THE DECORATIVE LAMINATES



FORMICA Ltd, De La Rue House, 84/86 Regent Street, London, W.1.

*FORMICA and VANITY are registered trademarks

PERFECT FOR SIZE & SHADE

and perfect for shade too!

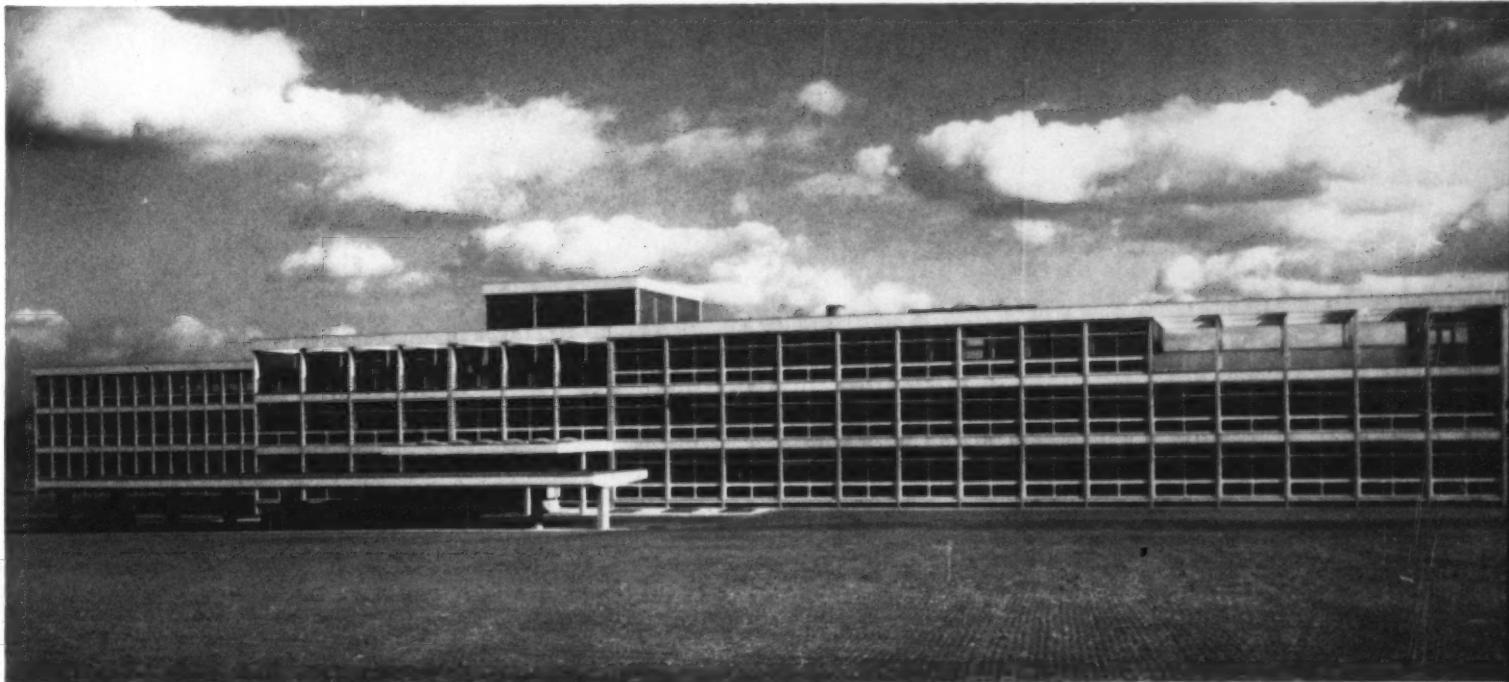
Perfect in shape as the Venus de Milo, Boote's Tiles emerge from their ultra-modern tunnel kilns accurate in their vital statistics to the nearest turn of a calliper screw! Perfect in shade too, Boote's Tiles are the answer to every tiler's prayer. They fit, physically and they fit, aesthetically. AND we can promise excellent deliveries — of SILTEX brilliant glaze tiles; Eggshell enamel tiles or white or cream Earthenware tiles — whichever you want. Let us know which interests you and we will send you full details and samples by return.



SILTEX
CERAMIC WALL TILES
T. & R. BOOTE LTD.
(Established 1842) Burslem, Stoke-on-Trent

Fix tiles with Boote's "TYLOFAST" Tile Fixing Mastic !

'Prospect' projecting windows for I.C.I. Runcorn



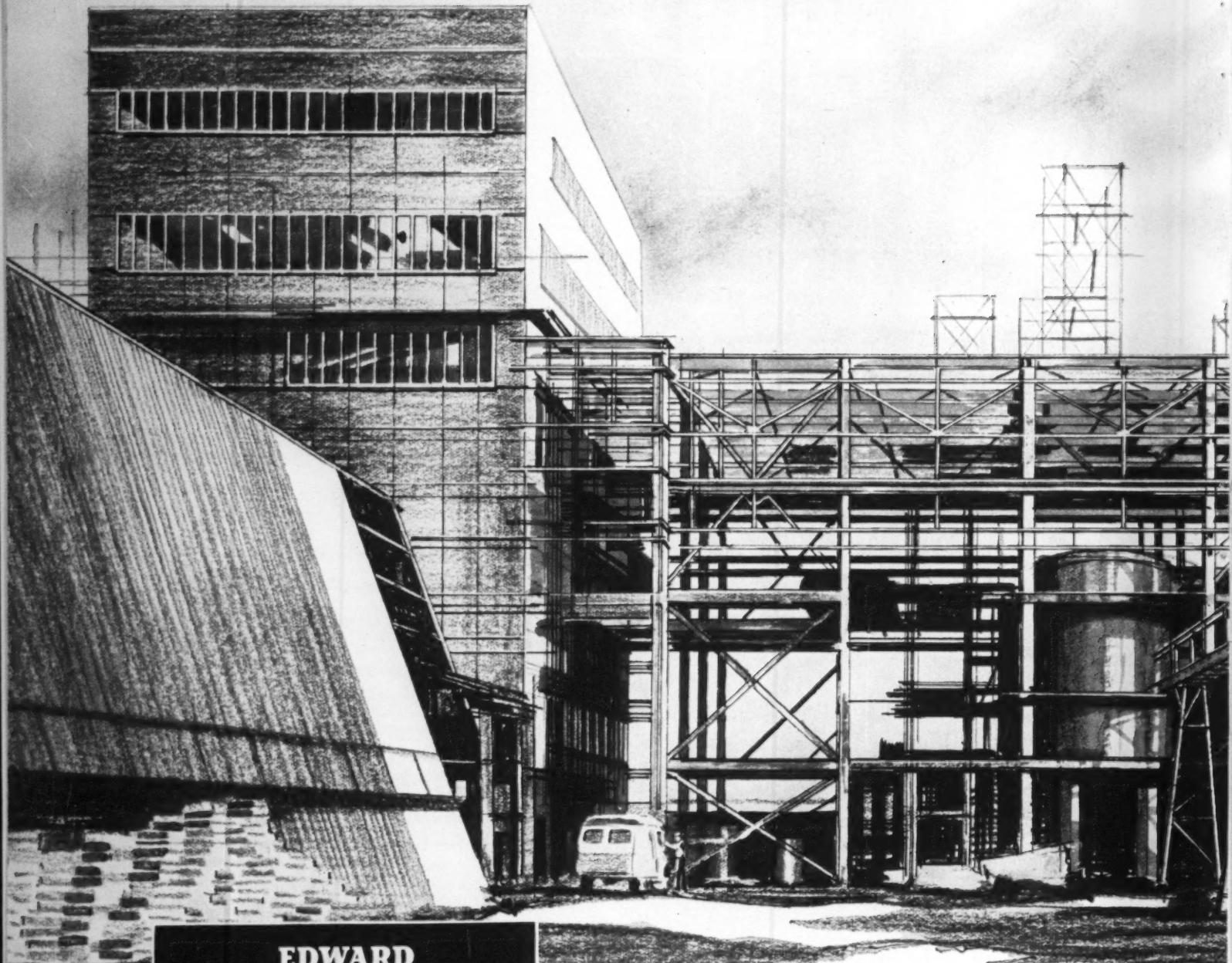
The new Administration and Drawing Office blocks for Imperial Chemical Industries Ltd. (General Chemicals Division), near Runcorn, Cheshire, were designed by Frederick Gibberd, F.R.I.B.A., in collaboration with the Architects' Department of I.C.I. Ltd. The 'Prospect' storey-height wall units, in timber, comprising large projecting opening sashes with top hung vents over, span the full width between columns, providing the maximum area of glass. The spandrel panels are separated from the projecting sashes by wide transomes, emphasising the line of the building.

EAST & SON LTD

Makers of the 'Prospect' range of Windows,
Doors and Curtain Walling in Timber

BERKHAMSTED · HERTS

Telephone Berkhamsted 2255



EDWARD
WOOD
& CO LTD

CONSTRUCTIONAL

Registered Office and Works:

OCEAN IRONWORKS • TRAFFORD PARK • MANCHESTER 17

STEELWORK

for Titanium Pigments



Construction of these extensions at the Grimsby factory of British Titan Products Co. Ltd., called for particular understanding of the requirements for the production of Titanium Pigment. The project is indicative of the scope of steelwork construction, and of the many engineering problems encountered and overcome.

BUILDING IN STEEL ...

meets every requirement and can provide the basis of a storage hut or the shape of a city. Structural steelwork cannot be equalled for strength, endurance, adaptability and cost.

ENGINEERS

Tel: Trafford Park 2341 (10 lines) London Office: 78 Buckingham Gate, S.W.1. Tel: Abbey 1948/9

SMART SCHOOLS . . .

have "Superlative" Eggshell Finish on their walls . . .



and **LUXOL** Polyurethane Lacquer on their floors . . .

**COLOUR
ADVISORY
SERVICE
FOR
SCHOOLS**

This special department of British Paints Limited will plan colour schemes for entire schools, or parts of schools freely and without obligation. You are cordially invited to make use of this service.

"Superlative" Eggshell Finish is of special interest for school decoration. It is comparable with full gloss paints for general serviceability indoors, but possesses a distinctive eggshell lustre which provides a most dignified and pleasing appearance. For walls, ceilings and woodwork in 52 lovely colours.

Luxol Polyurethane Lacquer is the year's most brilliant newcomer to the list of floor coating materials. Luxol Polyurethane Lacquer maintains its lustre for long periods without polishing; protects the floor covering from wear, and because its surface is of such exceptional hardness dirt is less adherent and is more easily removed with a damp mop — these are its unrivalled qualifications for school use.

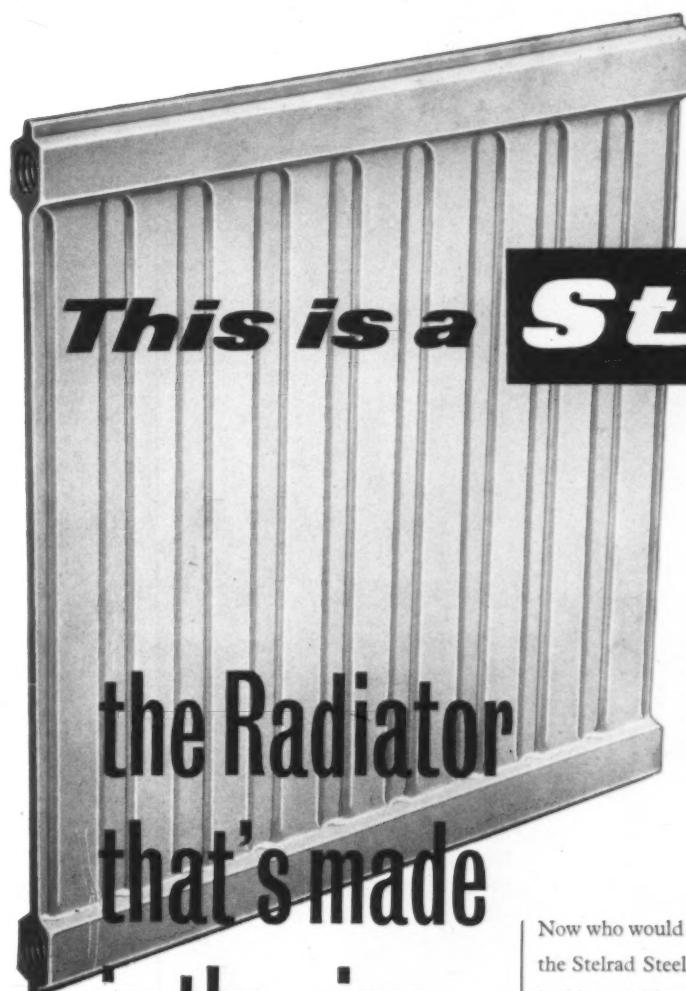
BRITISH PAINTS LIMITED

Portland Road, Newcastle upon Tyne, 2.

Northumberland House, 303-306, High Holborn, London, W.C.1. 31, Wapping, Liverpool.



BELFAST, BIRMINGHAM, BRISTOL, CARDIFF, GLASGOW, LEEDS, MANCHESTER, NORWICH, PLYMOUTH, SHEFFIELD, SOUTHAMPTON, SWANSEA, and all principal towns.



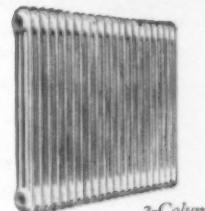
This is a Stelrad

the Radiator
that's made
in the size
you want,
and in the
shape your
client likes

Now who would have thought
the Stelrad Steel Radiator
had been with us for nigh on
twenty-five years?
Why, you can probably
remember people telling
about it at the time.

Stelrad PATENTED PROCESS RADIATORS

Some were doubters, holding
forth about steel and how the only
Radiator to use was one that was
not only heavy to handle but
ungainly to behold. But where
is the Stelrad today? In buildings
large and small throughout the
length and breadth of the land, and
in a range so wide there is not a
single nook a Stelrad cannot heat.



2-Column



Window seat type

STEEL RADIATORS LIMITED

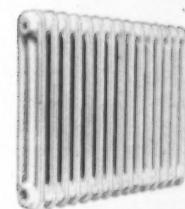
BRIDGE ROAD, SOUTHALL, MIDDLESEX • Telephone: SOuthall 2603



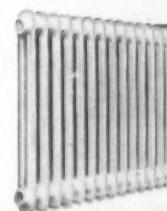
Double Wall



Angle-Wall



3-Column



Easy Clean

TEMPLETON



Cardonald 1/3304

Contract Carpeting

The TEMPLETON contract range offers you the widest scope available today in carpeting for hotels, restaurants, cinemas, theatres—anywhere in fact that requires distinctive designs and good qualities.

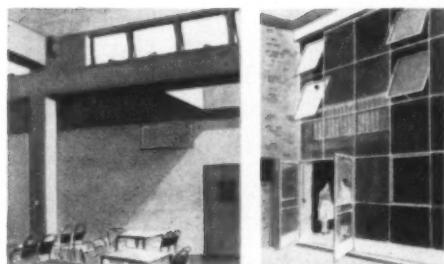
TEMPLETON designers and craftsmen combine to produce the finest designs, colours and qualities in contract carpeting—designs which will tone with modern furnishings and decor; qualities to meet the needs of heavy wear and tear in all public buildings.

TEMPLETON

Weavers of the finest carpets in the world

JAMES TEMPLETON & CO LTD GLASGOW London Manchester Leeds Birmingham

Teleflex it!



TELEFLEX solves window control problems.
Remotely – mechanically – simply – economically –
unobtrusively or **completely concealed**

Suitable for all types of hung windows –
Top, Side, Bottom, Projected Top, Vertical Centre,
Horizontal Centre – and Patent Glazing, Roof Lights,
Lantern Lights, Louvres, Sliding Sashes,
Skylights, Sunbreakers, Hit and Miss Vents.

Teleflex

TELEFLEX PRODUCTS LIMITED · BASILDON · ESSEX

Telephone: Basildon 22861

Grams: TELEFLEX PHONE BASILDON

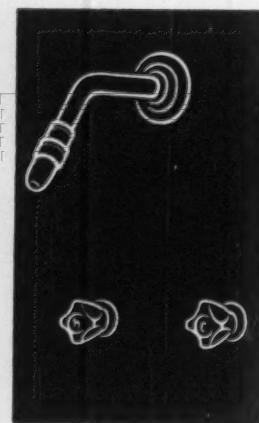
nuastyle

matching bathroom fittings

attractive
styling
quick cleaning
easy fitting
lasting quality



G1050 $\frac{1}{2}$ " Washbasin mixer fitting with $1\frac{1}{2}$ " pop-up waste.
Inlets screwed $\frac{1}{2}$ " B.S. pipe, male, with centres 8" to 10".
A truly serviceable and attractive adjunct to any modern bathroom.



D1611 Shower fitting
with $\frac{1}{2}$ " hot and cold taps.
Inlets screwed $\frac{1}{2}$ " B.S.
pipe, male. Adds the final
refinement to the bath.



D1032 Bath fitting with $\frac{1}{2}$ " taps. Inlets
screwed $\frac{1}{2}$ " B.S. pipe, male. Bold contemporary
design adds a luxury touch at reasonable cost.



B206 Bidet fitting with $\frac{1}{2}$ " hot and cold taps.
Transfer valve to rim or douche incorporates $1\frac{1}{2}$ "
pop-up waste. Flush or douche at finger touch.

Illustrated here are four of the many fittings from the NUASTYLE range. Manufactured of highest quality materials in our own factory and conforming to the highest precepts of contemporary design and functional purpose. Boldly coloured vacuum-coated "Arripex" indices are clearly and legibly marked, red for hot water, blue for cold. Smooth untrammelled lines and heavy chromium plating ensure easy cleaning and ease of use. Installation too, is simple. These are but a few of the many products of the Armitage Brass Plant whose range includes not only NUASTYLE fittings, but also fittings for a wide variety of purpose in Hospitals, Laboratories, Schools etc. Our representative will gladly tell you all about them or show you samples of the NUASTYLE range illustrated. Descriptive literature available in response to your request.

G1050 & D1032 available with the NUASTYLE NU-FLO, the mixer without back-flow.

designed to harmonise
with Armitage Ware
bathroom fixtures



Edward Johns and Company Limited (Established 1817) Armitage Staffordshire
Telephone: Armitage 253 (5 lines)
Brass Foundry: Cannock Staffs.
London Office and Showrooms: 332-337 Grand Buildings, Trafalgar Square W.C.2
Telephone: WHItehall 8063 and 2488/9

NOTTINGHAM CO-OPERATIVE SOCIETY
choose Ceramic Tiles



Architect: *W. V. Betts & Son, A.I.A.R.I.B.A.*
41 Bridgford Road, West Bridgford, Nottingham.

Tiling by: *Thos. Stephens (NOTTM) Ltd.*

... and public opinion endorses with enthusiasm the Architect's choice
of this **PERFECT** surface material — unrivalled for
lasting beauty, for easy hygiene, and for luxurious economy,
where the first cost is the last! Ceramic Tiles enhance superbly,
the spacious, modern design of this magnificent
Self-Service Store, in Farnborough Road.

Visit the Council's display of ceramic tiles at the Building Centre, Store St., Tottenham Court Rd., W.C.1.

British Ceramic Tiles

British Ceramic Tile Council • Federation House • Stoke-on-Trent



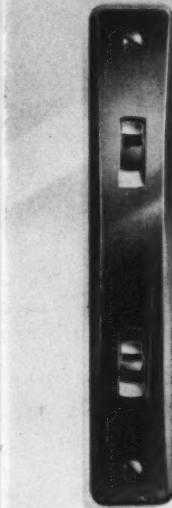
Mutac Clipper switches have been accepted by the Council of Industrial Design for Design Index—so architects, consulting engineers and contractors are choosing them for their good looks, as well as for their functional efficiency and easy assembly.

just a minute!

that's all it takes to instal the new

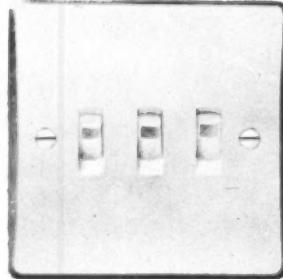
'MUTAC, CLIPPER'

ARCHITRAVE SWITCH ASSEMBLY



Take either a 'Mutac Clipper' plaster depth or architrave switch plate and select the required switch, bell push or pilot light. Simply press home the spring clip with a small screwdriver and a fixed plate assembly is ready for installation. Available in 1, 2 or 3 gang for plaster depth and 1 and 2 gang for architrave. 'Mutac Clipper' switch assemblies will cut installation costs and save time as additions and alterations can be made with the minimum of effort.

PLASTER DEPTH SWITCH ASSEMBLY



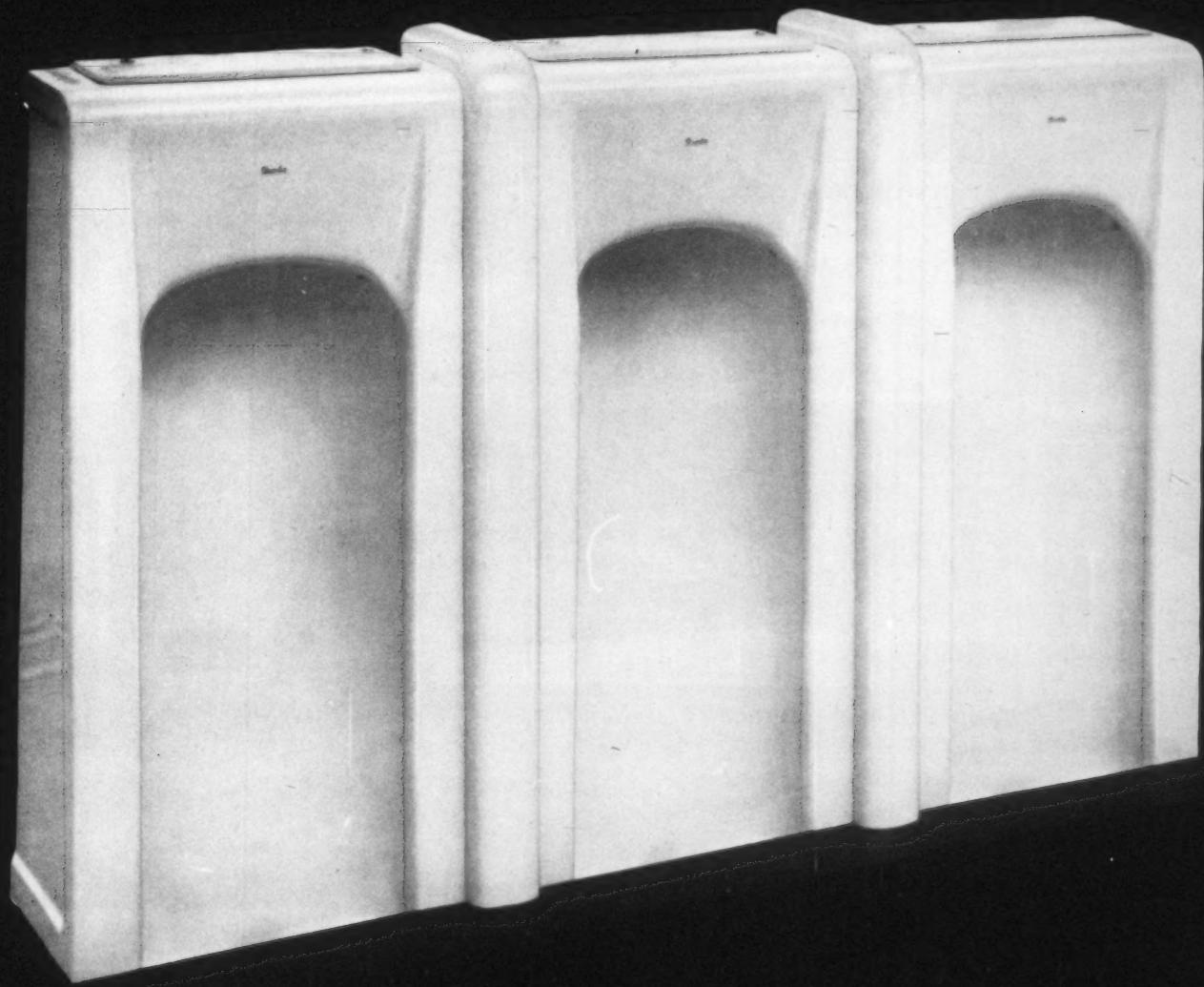
G.E.C.

INSTALLATION EQUIPMENT GROUP

THE GENERAL ELECTRIC CO. LTD., MAGNET HOUSE, KINGSWAY, LONDON, W.C.2

SWITCH AND FUSE GEAR
H.R.C. FUSES
OVERHEAD BUSBARS
RISING MAINS
CONDUIT
PIRELLI GENERAL CABLE
CABLE TRUNKING
UNDER-FLOOR CABLE DUCTS
ELECTRIC WIRING ACCESSORIES
BELLS

Shanks



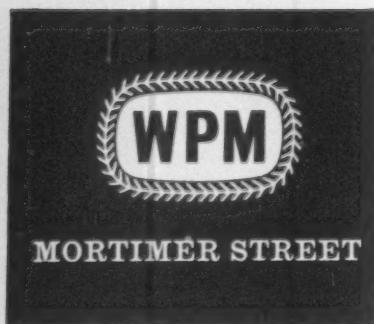
COMPACTO

Fireclay Urinals with enclosed flush tanks

SHANKS & CO., LTD., TUBAL WORKS, BARRHEAD, SCOTLAND



Drawing by John Drummond



A place for Wallpaper

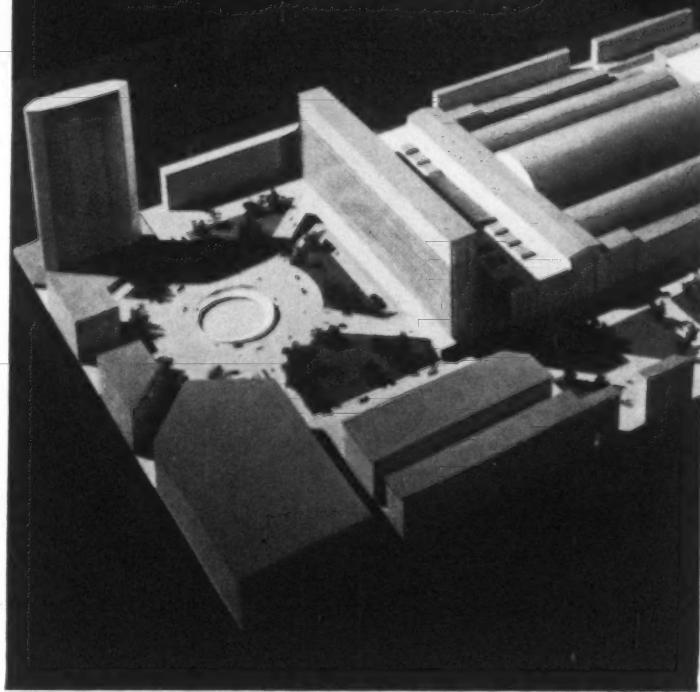
THE FOLLOWING COLLECTIONS
ARE AVAILABLE FOR ARCHITECTS CONCERNED WITH THE
SPECIFICATION OR DIRECTION OF
DECORATIVE SCHEMES

PALLADIO, HAYWARD, THE ARCHITECTS BOOK

AND MAY BE SEEN AT

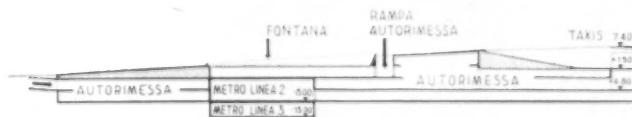
The Architects' Department The Wall Paper Manufacturers Limited
19-21 Mortimer Street London W1
or King's House King Street West Manchester 3

WORLD



MILAN: REPLANNED ZONE OF CIRCULATION

*Station project
by Minoletti
and Gentili*



BERLIN: TOWERS BY SCHWEBES & SCHOSZBERG



93

The spirit of Sant'Elia, since his epitaph puts it—in *paradiso*, must have stirred when Minoletti and Eugenio Gentili proposed to Milan Central Station the seal of official. There could be no more contrast than that between Sant'Elia's far-seeing and visionary project with multi-level circulation attached airport even in 1912 grossly pseudo-classical and eventually put up in the obscuring the unique five train-shed.

Now the Minoletti-Gentili project proposes to adapt and retain existing works to a conditic striking distance of the scheme—not out of sentiment for the high days of Futurism answer to traffic problems that Elia had foreseen, but that could be bothered to anticipate. In solution of these it is now proposed, as the diagram shows, to strip off most of the existing facade and replace it by an office slab, 3, in the manner of Termini station in Rome; to create Milan's scattered air-traffic a space below the booking hall to connect the central station with Porta Nuova by underground.

3

Although it is easy enough to make flattering comparisons with the Allee in the Eastern Sector, standard of new architecture Berlin has not been exceptional—not certainly not as high as West Berlin's status as a showplace of which would seem to require. Reactions to the city's buildings have improved the standard, but not enough. Thus, the Berlin-Hilton, 4, is hardly up to the standard quality of the great Hiltons, difficult to tell whether this is due to American partners in the Pereira and Luckmann, or German ones, Schwebes and Schoszberg. The chances are that the form is due to the first two suppressed design for the building is any evidence; cf. (July 1955) and the detailing, determined, 5, owes more to Germans.

There is some ground for the notion in one of the undoubted recent West Berlin buildings,

THE ARCHITECTURAL REVIEW

9-13 QUEEN ANNE'S GATE, WESTMINSTER,
SW1 WHITEHALL 0611 FIVE SHILLINGS

VOLUME 127 NUMBER 762
AUGUST 1960

SUBSCRIPTION RATE:—The annual postage and subscription rate, payable in advance, is £3 3s. 0d. sterling, in USA and Canada \$10.50, in Italy Lira 6940, elsewhere abroad £3 10s. 0d. Italian subscription agents: A. Salto, Via Santo Spirito 14, Milano; Libreria Dedalo, Via Barberini 75-77, Roma. An index is issued half-yearly and is published as a supplement to the REVIEW.

Directing Editors	J. M. Richards Nikolaus Pevsner H. de C. Hastings Hugh Casson
Executive Editor	J. M. Richards
Assistant Executive Editor	Reyner Banham
Assistant Editor (Production)	William Slack
Features Editor	Kenneth Browne
Technical Editor	Lance Wright
Assistant Editor (Counter Attack)	Ian Nairn
Staff Photographers	De Burgh Galwey W. J. Toomey
Advertisement Manager	V. V. Tatlock

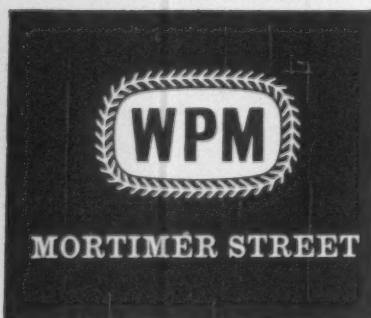
CONTENTS

93 World
97 Views and Reviews
100 Frontispiece
101 Historicism: Peter Collins
104 Undergraduate Rooms, Oxford: Architects, The Architects' Co-Partnership
110 Birmingham: Liverpool; Manchester: Ian Nairn
118 Factory at Basildon New Town: Architect, Anthony B. Davies
124 Parking Terminals: Michael Brawne
135 Interior Design
 Restaurant and Coffee Bar in Chelsea: Designers, Conran Design Group
 Church of Our Lady of Lourdes, Leeds: Architects, Walker and Biggin
140 Design Review
141 A Vocabulary of Plants: Patience Gray
144 Current Architecture
 Miscellany
149 Exhibitions
151 Townscape
153 History
155 Skill
 Street Lighting
158 The Industry
162 Contractors

4



Drawing by John Drummond



A place for Wallpaper

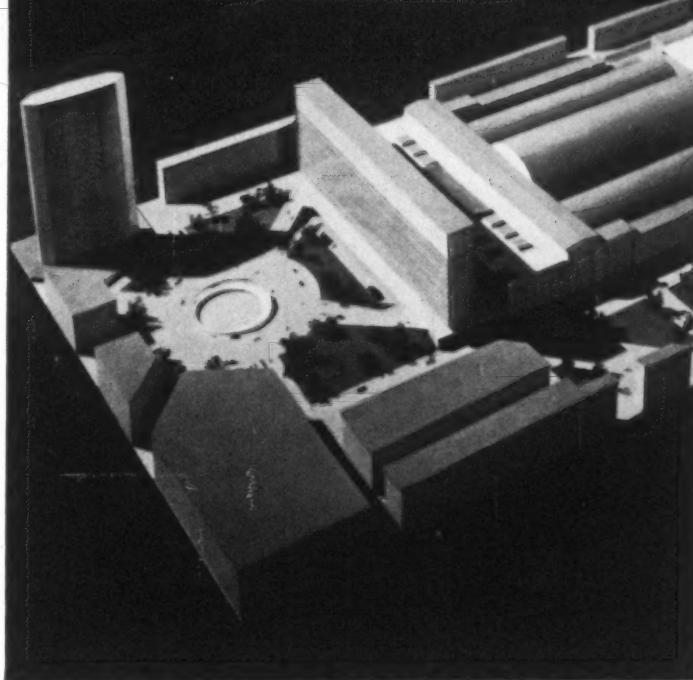
THE FOLLOWING COLLECTIONS
ARE AVAILABLE FOR ARCHITECTS CONCERNED WITH THE
SPECIFICATION OR DIRECTION OF
DECORATIVE SCHEMES

PALLADIO, HAYWARD, THE ARCHITECTS BOOK

AND MAY BE SEEN AT

The Architects' Department The Wall Paper Manufacturers Limited
19/21 Mortimer Street London W1
or King's House King Street West Manchester 3

WORLD

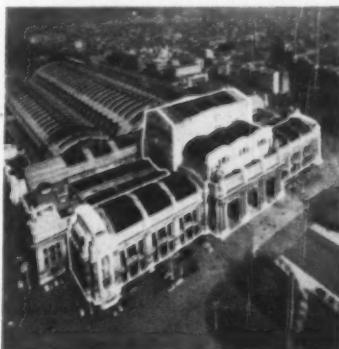


The spirit of Sant'Elia, sleeping—as his epitaph puts it—in *paradiso con gli eroi*, must have stirred when Giulio Minoletti and Eugenio Gentili's project for Milan Central Station was given the seal of official approval. There could be no more violent contrast than that between Sant'Elia's far-seeing and visionary projects, complete with multi-level circulation and attached airport even in 1912, and the grossly pseudo-classical construction eventually put up in the Twenties, obscuring the unique five-vaulted train-shed.

Now the Minoletti-Gentili project, 1, proposes to adapt and revise the existing works to a condition within striking distance of the Santelian scheme—not out of sentimentality for the high days of Futurism, but in answer to traffic problems that Sant'Elia had foreseen, but that no one could be bothered to anticipate on the ground. In solution of these problems it is now proposed, as the diagram 2 shows, to strip off most of the classicizing façade and replace it by a thin office slab, 3, in the manner of the Termini station in Rome; to concentrate Milan's scattered air-terminals in a space below the booking hall; to connect the central station with that at Porta Nuova by underground

travelators; to completely remake the piazza Duca d'Aosta in front of the station on four different levels (Sant'Elia would have been proud!) in order to accommodate parking and two metro lines, one connecting directly with Malpensa airport; and to dock over part of the railway beyond the train-shed for a heliport.

The result, if completed, will be a radical transformation of Milan's main travel-nucleus, but one must wonder how far this replanning has been restricted, even distorted, by the Pirelli tower, visible at the left in 1. Handsome as the tower may be, its siting in relation to the station, in terms of circulation and congestion, now seems far more thoughtless than the siting of the Torre Velasca, in terms of townscape, in relation to the cathedral.

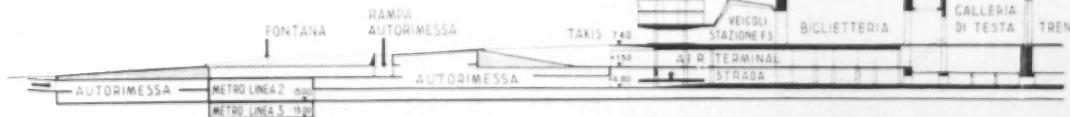


2



MILAN: REPLANNED ZONE OF CIRCULATION

*Station project
by Minoletti
and Gentili*



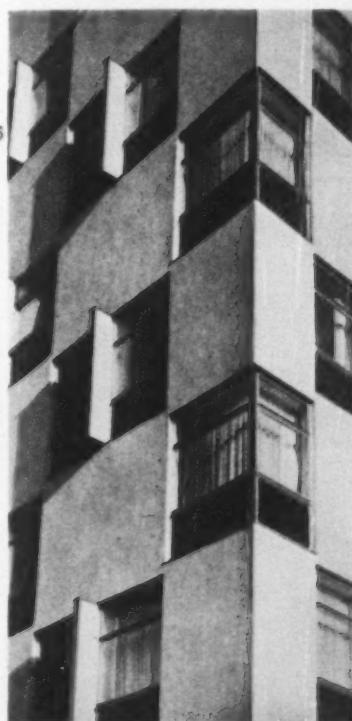
BERLIN: TOWERS BY SCHWEBES & SCHOSZBERGER



4

Although it is easy enough to make flattering comparisons with the Stalin-Allee in the Eastern Sector, the real standard of new architecture in West Berlin has not been exceptionally high—certainly not as high as West Berlin's status as a showplace of democracy would seem to require. Recent additions to the city's buildings have improved the standard, but not always enough. Thus, the Berlin-Hilton hotel, 4, is hardly up to the standard-bearing quality of the great Hiltons, but it is difficult to tell whether this is due to the American partners in the design, Pereira and Luckmann, or the German ones, Schwebes and Schoszberger. The chances are that the bulk form is due to the first two (if their suppressed design for the Seagram building is any evidence; cf. *Marginalia*, July 1955) and the detailing, crisp and determined, 5, owes more to the Germans.

There is some ground for this supposition in one of the undoubtedly better recent West Berlin buildings, the Tele-



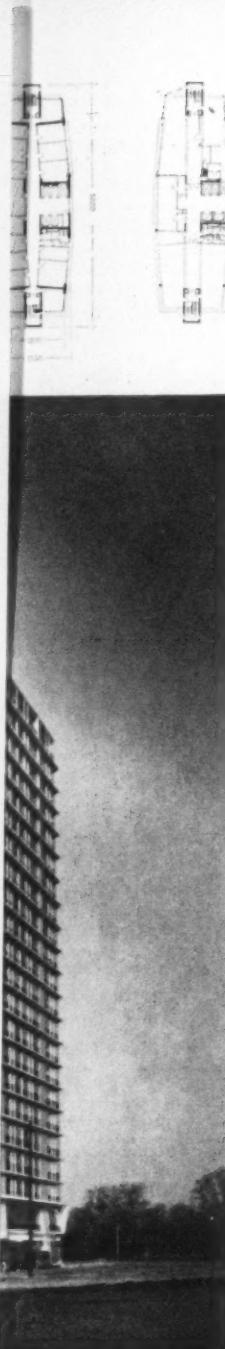
5

ACKNOWLEDGMENTS

WORLD, pages 93-96: 4, 5, *Deutsche Bauzeitschrift*; 6, 7, 12, 13, 15-17, 21, *Bauwelt*; 8, 9, *Arts & Architecture*; 10, 11, *Deutsche Bauzeitung*; 14, *Architecture and Building*; 18-20, Richard J. Neutra; 22-24, *Architekt*; 25, 26, *Arquitectura Mexico*. VIEWS AND REVIEWS, pages 97-99: 2, 3, Metropolitan-Cammell Carriage and Wagon Co. Ltd.; 4, Provost and Fellows of Worcester College, Oxford. FRONTISPICE, page 100: G. E. Kidder Smith. UNDERGRADUATE ROOMS, OXFORD, pages 104-109: Galwey, Arphot. BIRMINGHAM: LIVERPOOL: MANCHESTER, pages 110-117: frontis, top, AR Aerial Photography Unit; page 113, 20, Stephenson and Young; remainder, Ian Nairn. FACTORY AT BASILDON NEW TOWN, pages 118-123: 1, 3-11, Galwey, Arphot; 2, Stanland; 12, Henk Snoek. PARKING TERMINALS, pages 124-134: frontis, bottom, Hedrich Blessing; 2, Verity Press Features; 9, Lawrence S. Williams; 10, 12, Gordon Sommers; 11, 15, Cervin Robinson; 18, Foto Woscidlo. INTERIOR DESIGN, pages 135-139: Coffee Bar and Restaurant in Chelsea, 1, 2, 4-6, Priscilla Conran; 3, 9, Klemantaski Studio. Church of Our Lady of Lourdes, Leeds, 2, Galwey, Arphot. DESIGN REVIEW, page 140: Galwey, Arphot. A VOCABULARY OF PLANTS, pages 141-143: 1, Gerti Deutsch; 2, 3, Toomey, Arphot. CURRENT ARCHITECTURE, pages 142-148: 1-3, Edward Armstrong and Frederick MacManus; 4-6, Toomey, Arphot; 7, 9-11, Wainwright; 8, Donald Southern. MISCELLANY, pages 149-154: Exhibitions, 1, 4, 5, Arts Council of Great Britain; 2, The Silberman Galleries, New York; 3, Marlborough Fine Art Ltd.; 7, The Hanover Gallery. Townscape, Robert Hurd. History, National Buildings Record. Counter-Attack, George Outram & Co. Ltd.



The Cover shows vegetable enrichment in one of its most dramatic forms, chosen by Patience Gray or the first of her series of articles on plants well adapted to modern architecture and modern maintenance. The ten-foot Heracleum Mantegazzianum, or Giant Parsnip, shown in Kenneth Browne's drawing as it appears in the grounds of a house by the Architects' Co-Partnership, is described and further illustrated on pages 142-3.



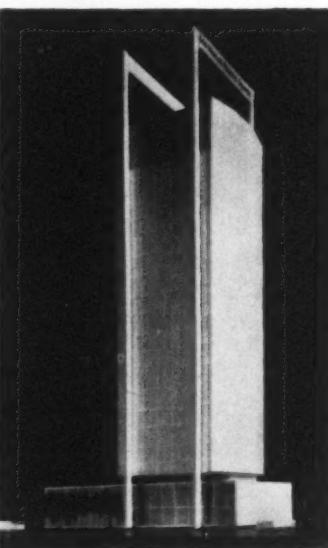
ERS : U.S.A.

ns to have been tacitly in some quarters that the Building was not only the epoch in Mies's life, but that is nothing left to say about it by anybody else either. In time, tall towers (and towers ideas) are still being designed, crisper architecture is far from closed subject. Even a building like the Tumble Oil offices, by Welton and Associates, 8, in Houston, which looks at first sight like the Sons of Seagram, in fact a number of technical refinements—totally the aluminium sunbeams return to the UN system of mechanical service floors (18th and 30th of the main tower) promising, the dismissal of

most of the usual rooftop tackle to the top of the off-lying multi-deck garage, leaving the top of the main tower clear for two glassed-in floors whose function has not been revealed, though the possibilities are clearly enormous.

Quite different in scale, though not in ambition, is the Los Angeles Federal Savings Bank building, 9, projected by Douglas Honnold and John Rex. The tower proper has only eight rentable floors above the banking-hall (the maximum permitted by the zoning laws for that part of the San Fernando valley) but the external structure, consisting of four steel columns, is carried, portal-frame-wise over the head of the tower to form a skysign at a height of 160 feet—high visibility was in the client's original brief to the architects. Within the small tower, each floor is intended to be let off as a single prestige office, with the lift doors opening directly into it, thus avoiding waste space for lift-lobbies.

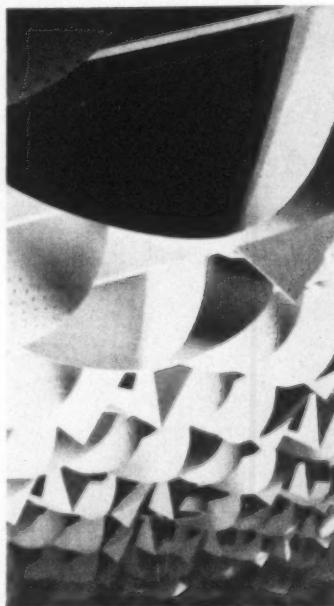
9



GERMAN CONCERT HALLS —DEVELOPMENT CONTINUES



10

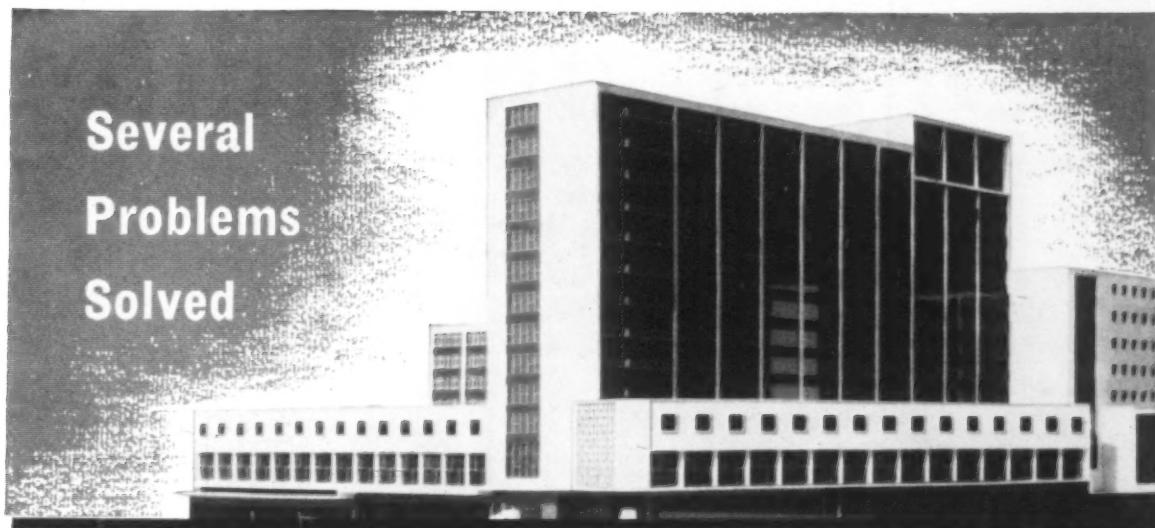


11

The progress and development of the post-war German concert hall, summed up to date in AR August-September 1959, has been taken further—though it is not yet clear in what direction—by the publication of the prize-winning schemes for the rebuilding of the Schauspielhaus in Dusseldorf, the completion of the Stadttheater in Gelsenkirchen, and the Beethovenhalle in Bonn.

The last-named, 10, may be taken as a progressive evolutionary development of the principles established in the Liederhalle in Stuttgart, with polygonal and curved auditoria of various sizes, welded together by a complex of low-roofed foyers, though the acoustic treatment of the ceiling of the Grosser Saal reaches an extreme condition with its regular pattern of sectioned spheres and clustered pyramids, 11. Gelsenkirchen, conversely, veers towards order and symmetry—which may come as a surprise in a work of Ruhbau, Rave and von Hausen, who did the Munster theatre with its

Several Problems Solved



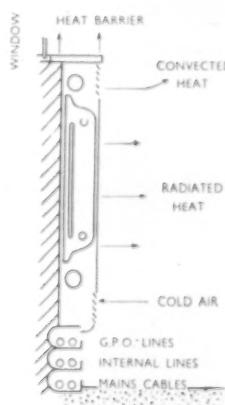
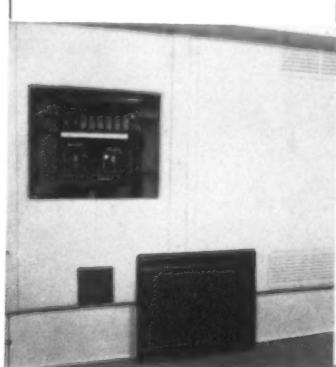
in Birmingham's Biggest Building

The heating and service trunking system devised for The Big Top is of special interest to all concerned with the design, construction and equipment of new buildings.

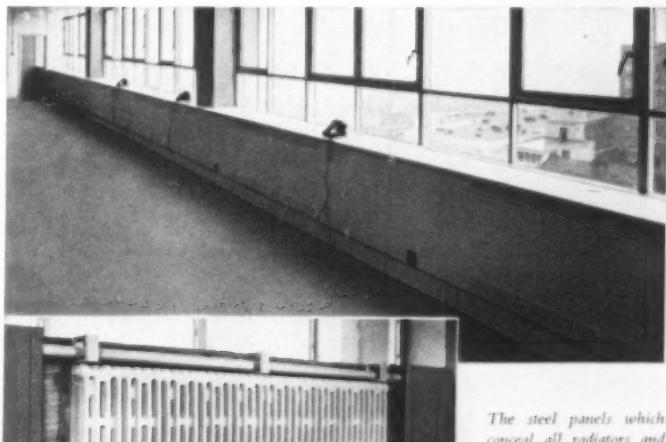
It provides both radiant and convected heating at low fuel cost. All telephone, lighting and power cables are completely concealed yet instantly accessible. Installation can keep pace with construction, thereby speeding up completion of curtain wall types of building.

The metal panelling and sill units for this important contract are typical of the work developed and produced by Harveys to architects' individual requirements.

Heat is radiated through the metal panelling and sill units; louvres allow for circulation of convected heat.



*The Big Top, New Street, Birmingham.
Architects: Messrs. Cotton, Ballard & Bloué.
Heating Engineers: Couzens & Akers Ltd.*



The steel panels which conceal all radiators and electrical services are stove enamelled to the same high standard as Harvey Desks and Partitioning.

METALWORK by

HARVEY

G. A. HARVEY & CO (LONDON) LTD.
Woolwich Road, London, S.E.7. GReenwich 3232 (22 lines)

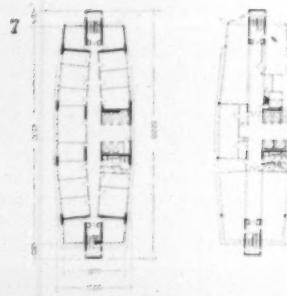
Other Harvey Products: CHIMNEYS, COWLS AND VENTILATORS • DUCTING • FUEL OIL STORAGE TANKS • ORNAMENTAL PERFORATED METAL AND WIREWORK • RAINWATER GOODS IN STEEL, ZINC AND COPPER • ROOFS, TURRETS AND DORMERS IN ZINC AND COPPER

SM/12

Berlin Towers

funken tower on the Ernst Reuter Platz, 6, which is entirely the work of Paul Schubert and Hans Schosberger. Though somewhat 'overdesigned' by non-German tastes, this appears to be a worthy addition to the limited roster of good European skyscrapers, and a bright beginning to the post-Pirelli epoch—the structure is the first of the sons of Nervi, though with suitable variations, 7, in the plans

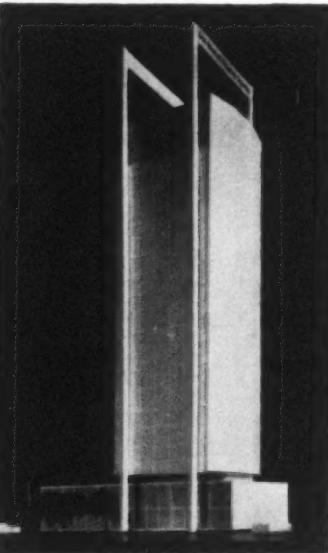
6



most of the usual rooftop tackle to the top of the off-lying multi-deck garage, leaving the top of the main tower clear for two glassed-in floors whose function has not been revealed, though the possibilities are clearly enormous.

Quite different in scale, though not in ambition, is the Los Angeles Federal Savings Bank building, 9, projected by Douglas Honnold and John Rex. The tower proper has only eight rentable floors above the banking-hall (the maximum permitted by the zoning laws for that part of the San Fernando valley) but the external structure, consisting of four steel columns, is carried, portal-frame-wise over the head of the tower to form a skysign at a height of 160 feet—high visibility was in the client's original brief to the architects. Within the small tower, each floor is intended to be let off as a single prestige office, with the lift doors opening directly into it, thus avoiding waste space for lift-lobbies.

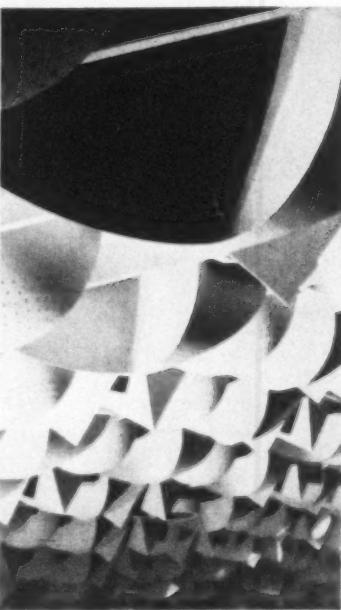
9



GERMAN CONCERT HALLS —DEVELOPMENT CONTINUES



10

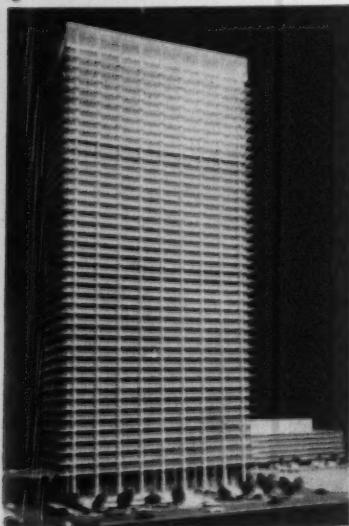


11

The progress and development of the post-war German concert hall, summed-up to date in AR August-September 1959, has been taken further—though it is not yet clear in what direction—by the publication of the prize-winning schemes for the rebuilding of the Schauspielhaus in Dusseldorf, the completion of the Stadttheater in Gelsenkirchen, and the Beethovenhalle in Bonn.

The last-named, 10, may be taken as a progressive evolutionary development of the principles established in the Liederhalle in Stuttgart, with polygonal and curved auditoria of various sizes, welded together by a complex of low-roofed foyers, though the acoustic treatment of the ceiling of the Grosser Saal reaches an extreme condition with its regular pattern of sectioned spheres and clustered pyramids, 11. Gelsenkirchen, conversely, veers towards order and symmetry—which may come as a surprise in a work of Ruhbau, Rave and von Hausen, who did the Munster theatre with its

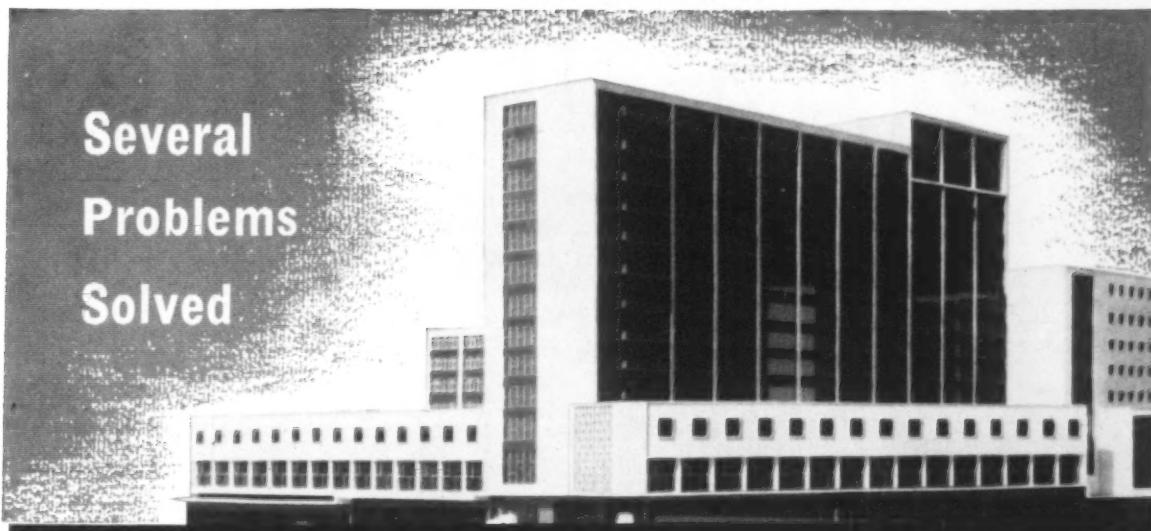
8



TOWERS: U.S.A.

It seems to have been tacitly accepted in some quarters that the Seagram Building was not only the end of an epoch in Mies's life, but that there was nothing left to say about skyscrapers by anybody else either. In the meantime, tall towers (and towers with tall ideas) are still being designed, and skyscraper architecture is far from being a closed subject. Even a building like the Humble Oil offices, by Welton Becket and Associates, 8, in Houston, Texas, which looks at first sight like one of the Sons of Seagram, in fact presents a number of technical refinements, notably the aluminium sunshades, the return to the UN system of interposed mechanical service floors (10th, 20th and 30th of the main tower) and, most promising, the dismissal of

94



Several Problems Solved

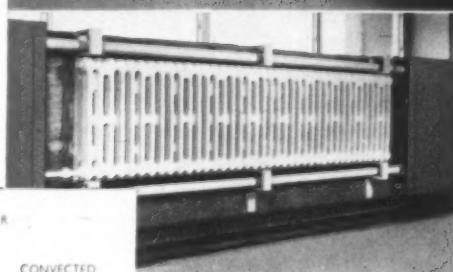
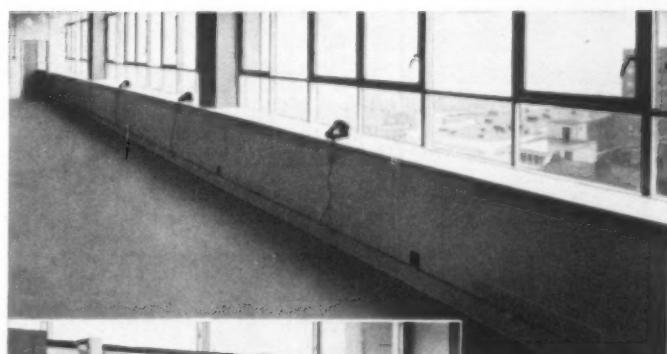
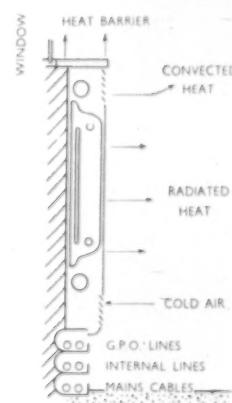
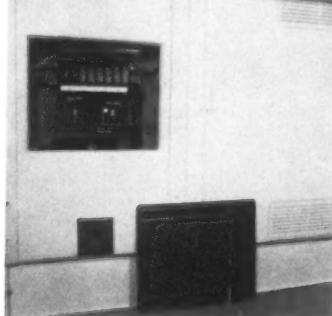
in Birmingham's Biggest Building

The heating and service trunking system devised for The Big Top is of special interest to all concerned with the design, construction and equipment of new buildings.

It provides both radiant and convected heating at low fuel cost. All telephone, lighting and power cables are completely concealed yet instantly accessible. Installation can keep pace with construction, thereby speeding up completion of curtain wall types of building.

The metal panelling and sill units for this important contract are typical of the work developed and produced by Harveys to architects' individual requirements.

Heat is radiated through the metal panelling and sill units; louvres allow for circulation of convected heat.



The steel panels which conceal all radiators and electrical services are stove enamelled to the same high standard as Harvey Desks and Partitioning.

METALWORK

by

HARVEY

G. A. HARVEY & CO (LONDON) LTD.
Woolwich Road, London, S.E.7. GReenwich 3232 (22 lines)

Other Harvey Products: CHIMNEYS, COWLS AND VENTILATORS • DUCTING • FUEL OIL STORAGE TANKS • ORNAMENTAL PERFORATED METAL AND WIREWORK • RAINWATER GOODS IN STEEL, ZINC AND COPPER • ROOFS, TURRETS AND DORMERS IN ZINC AND COPPER

HOPE'S aluminium windows

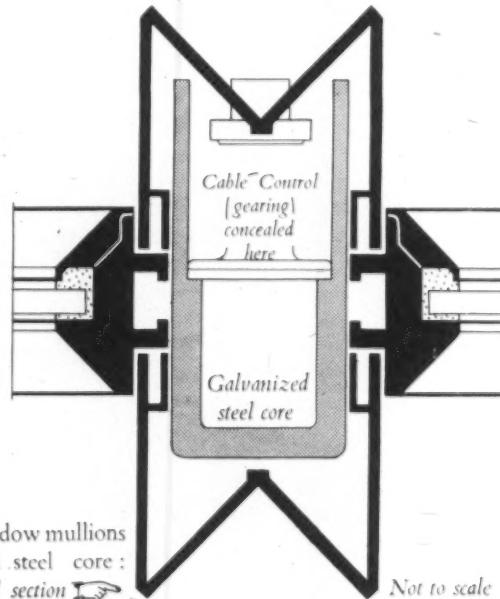


UNITED STATES EMBASSY, GROSVENOR SQUARE, LONDON

Architects: Eero Saarinen & Associates, U.S.A. Associate Architects: F. R. S. Yorke, E. Rosenberg & C. S. Mardall, F.R.I.B.A.

Ground floor windows are gold anodized aluminium with horizontally sliding vents at head operated by our Cable Control gearing concealed within the window mullions.

Other floors have hot-dip galvanized steel windows (*special fittings were designed, and in many cases, concealed, inside the window frames*) with featured mullions in gold anodized aluminium. Metal window boards, heating grilles, and trim accommodate curtains and avoid costly plastering.



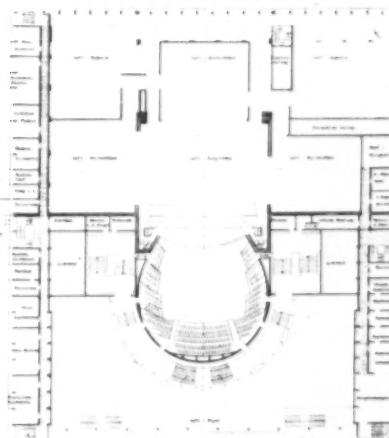
GOLD ANODIZED window mullions with hot-dip galvanized steel core:
typical section

HOPE'S WINDOWS

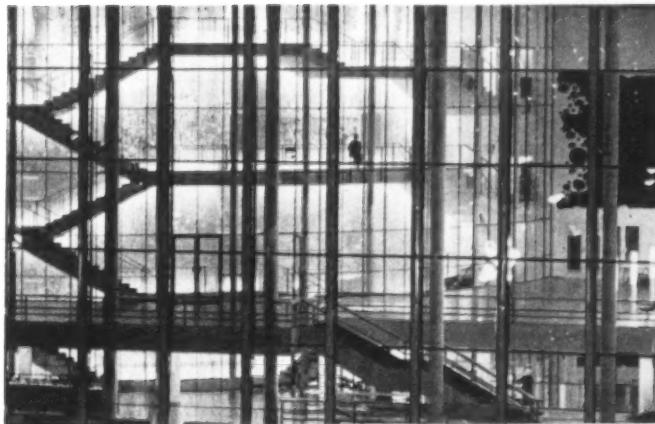
The Name Guarantees

HENRY HOPE & SONS LTD
SMETHWICK, BIRMINGHAM
LONDON: 17 BERNERS ST., W.1

German Concert Halls



12



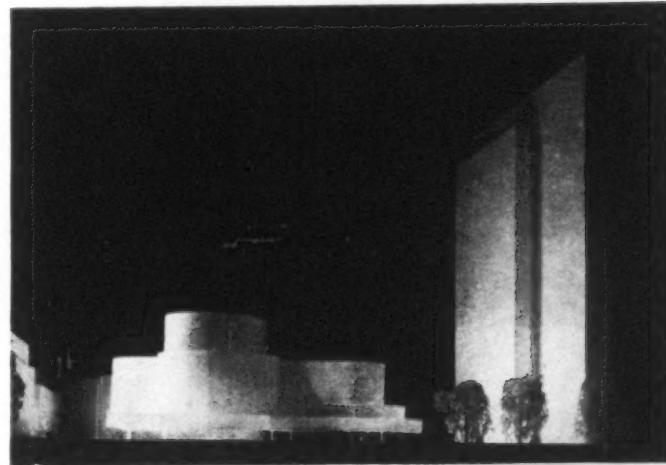
13

irregular outlines. As at Munster, however, the main hall is a regular horseshoe in plan, 12, but here wrapped in an extraordinarily spacious glass box of foyers, offices and other ancillaries, with a Kleiner Haus lying off more or less axially to one side. Architecturally, much of the best effect of this design comes from combinations of spatial structures, transparency and works of art, as in the view, 13, through the exterior glazing towards the glass drum that encloses the staircases serving the main auditorium, with one of Yves Klein's mural 'monochrome' propositions visible at the right on the flank wall.

The Dusseldorf situation is unique in that the new building has to be fitted into an environment which is not dominated by old buildings, but by a new one—Henrich and Petschnigg's Rheinrohr tower, 14. Only one of three



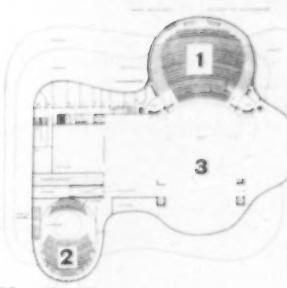
14



15

designs that were premiated *ex aequo* aimed to set against the large simple forms of the tower other forms that were equally simple and large, but in complete contrast to it. Since this design, 15, is the work of a distinguished local architect, Bernhard Pfau, it presumably has a slight margin over the other two prize-winners in probability of getting built. Its closed cylindrical masses would make a striking foil to the vast glass planes of the tower, and its shape in plan, 16, is probably unique in the world, certainly among recent German theatres.

Of the other two premiated designs, that of Brockmann and Kiep is closest to German norms at present, with its romantic outlines and polygonal auditorium, 17, and the third is so completely out of step with current German practice, that it has been dubbed the 'California Clubhouse,' 18, by the locals. This was not a particularly clever observation, insofar as the design is the work of Richard Neutra, but they have a point insofar as this is

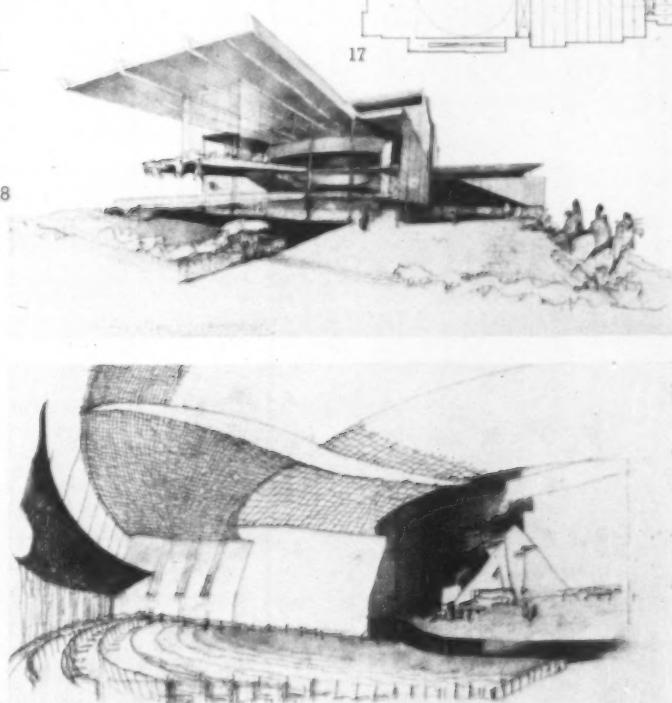


16



17

18

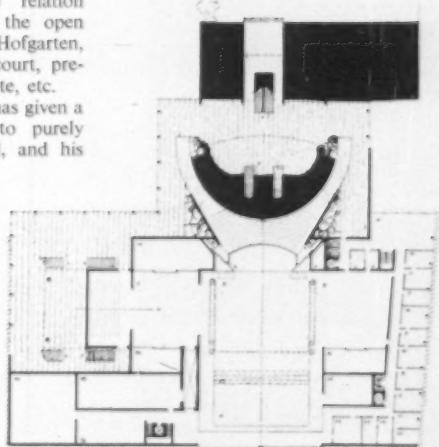


19

the one project that has given particular attention to the relation between the theatre and the open greenery and water of the Hofgarten, assisted by a sunken forecourt, preservation of trees on the site, etc.

Needless to say, Neutra has given a great deal of attention to purely theatrical qualities as well, and his report, with its accompanying diagrams and sketches, could well find a place in the libraries of architecture schools as a mind-stretcher for students who have been bullied by model by-laws, fire regulations, etc., into thinking of theatrical design purely as a statistical, optical and acoustical problem—though Neutra's ground

20

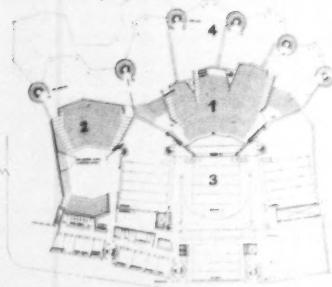


Concert Halls

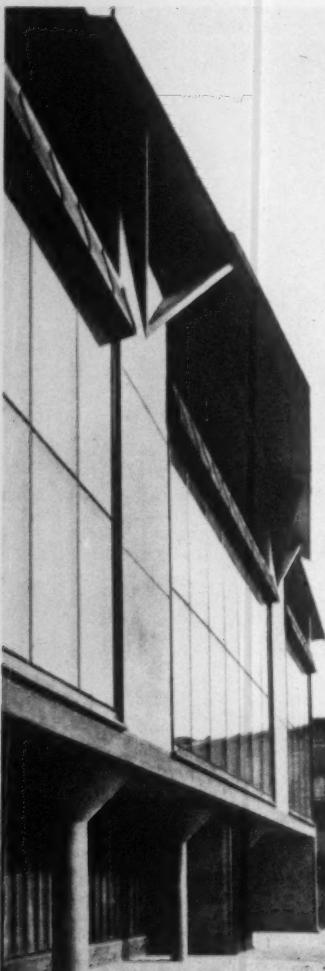
plan, 20, has as much plain commonsense about it as theirs are ever likely to possess.

Finally, one must sympathize with *Bauwelt* (15, 1960) and what appears to be a fairly large body of German opinion in regretting that no higher award than an 'ankauf' came the way of Rudolf Schwarz's intensely 'German' solution, best exemplified by its plan, 21, with its obsessive polygons, its shaped and free-flowing foyer-spaces, none of which is fully comprehensible from the elevations yet published.

21



Yugoslav Local Government Offices



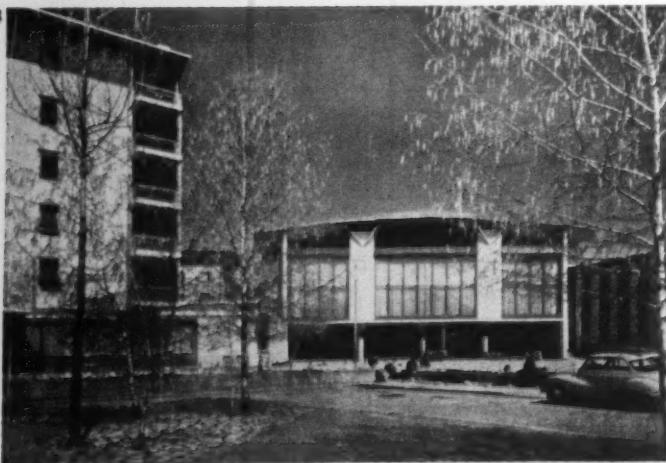
22

USABLE FORMS... SYMBOLIC VALUE

If there is an architecture which stands in need of shrewd and deep interpretative study at present, it is that of Yugoslavia. Its geographical and political intermediate position between East and West appears to be resolved in a very full comprehension of the culture of each, so that its architecture has a tendency to resemble the crucial phases of both (at least in their European aspects).

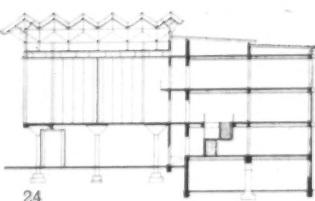
Thus, the ordinary well-informed reader, faced with 22, would almost immediately plump for Italy, and might even point, tentatively at an area between Reggio d'Emilia and the Adriatic coast. Faced with a general view of the whole however, 23, he would be more likely to plump for Scandinavia or possibly North Holland. It is clear that when good Yugoslav architecture goes European, it goes Pan-European. But it is equally clear that this complex of buildings at Kranj, for the local People's District Committee, designed by Professor Edo Ravnikar, is no eclectic assembly but grows from an inner logic of its own, albeit that logic has some relationship to the thinking of architects in other parts of Europe. Thus, in his account of the building in *Arhitekt*, 2, 1960, Professor Ravnikar stated that he 'wanted, in spite of all subjective and objective difficulties, to design a representative administrative building which would not diverge from the contemporary functional ideal of building, yet would have a more solemn attire... in short,

23



practical, usable forms with a symbolic value.'

All too often, such an intention has been realized in the People's Democracies, in terms of pseudo-vernacular, or pseudo-antique detailing, but here it has been handled in terms of forms and structure, particularly the roof (see the section, 24). The result appears a good deal more convincing than many attempts to do the same sort of thing in Western Europe, and Yugoslav architects, in their privileged cul-



24

tural position, may be able to teach us a thing or two yet.



25

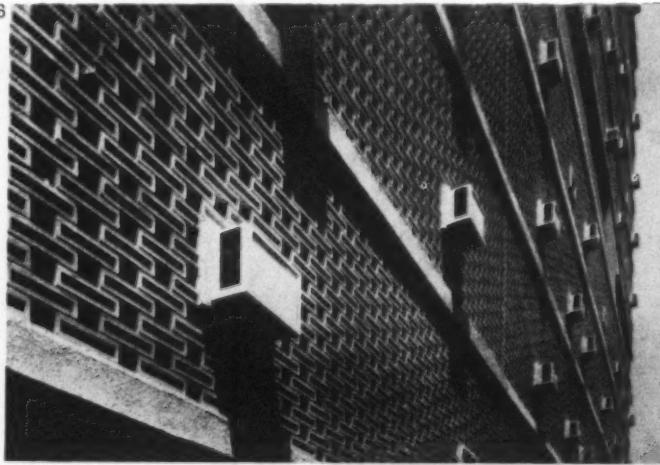
CONDOMINIO IN ACAPULCO

In spite of its proud record in the inter-War years, in spite of Candela, in spite of the University city on the Pedregal, Mexico has a habit of slipping out of the reckoning when Europeans discuss transatlantic architecture. But the country is still putting up good modern buildings, and must, therefore, have good architects. A recent number of *Arquitectura Mexico* (67, 1959) devoted to the work of Mario Pani, was a salutary reminder of the status and quality of one of Mexico's major architects (who has also been the editor of *Arquitectura Mexico* since its foundation in 1938).

Out of a substantial *œuvre complète*, much of which has been fairly well illustrated outside Mexico, it is interesting to select a work which has not, the *Cocos* apartment block, 25, in Acapulco. This is owned in 'condominio' by the tenants—a form of

building-finance which Pani helped to pioneer in Mexico—on a site between the Avenida Costera and the sea. The scheme has two aspects of particular interest—one, virtually inexplicable without a large scale drawing such as *AM* did not provide—is the section, which, as the photograph suggests, depends firstly on a stagger of half a storey between the front and back halves of the block, and secondly, on internal circulation within each split-level, up, or down, from elevator-served access balconies, staggered two-and-a-half floors as between the front and back of the building. Even if these internal complexities cannot be fully appreciated without actually visiting the building, the other point of interest registers well in photographs. It is, 26, the rich textural treatment of the street face, with its pot-tile sun-screen and air-conditioning intakes.

26

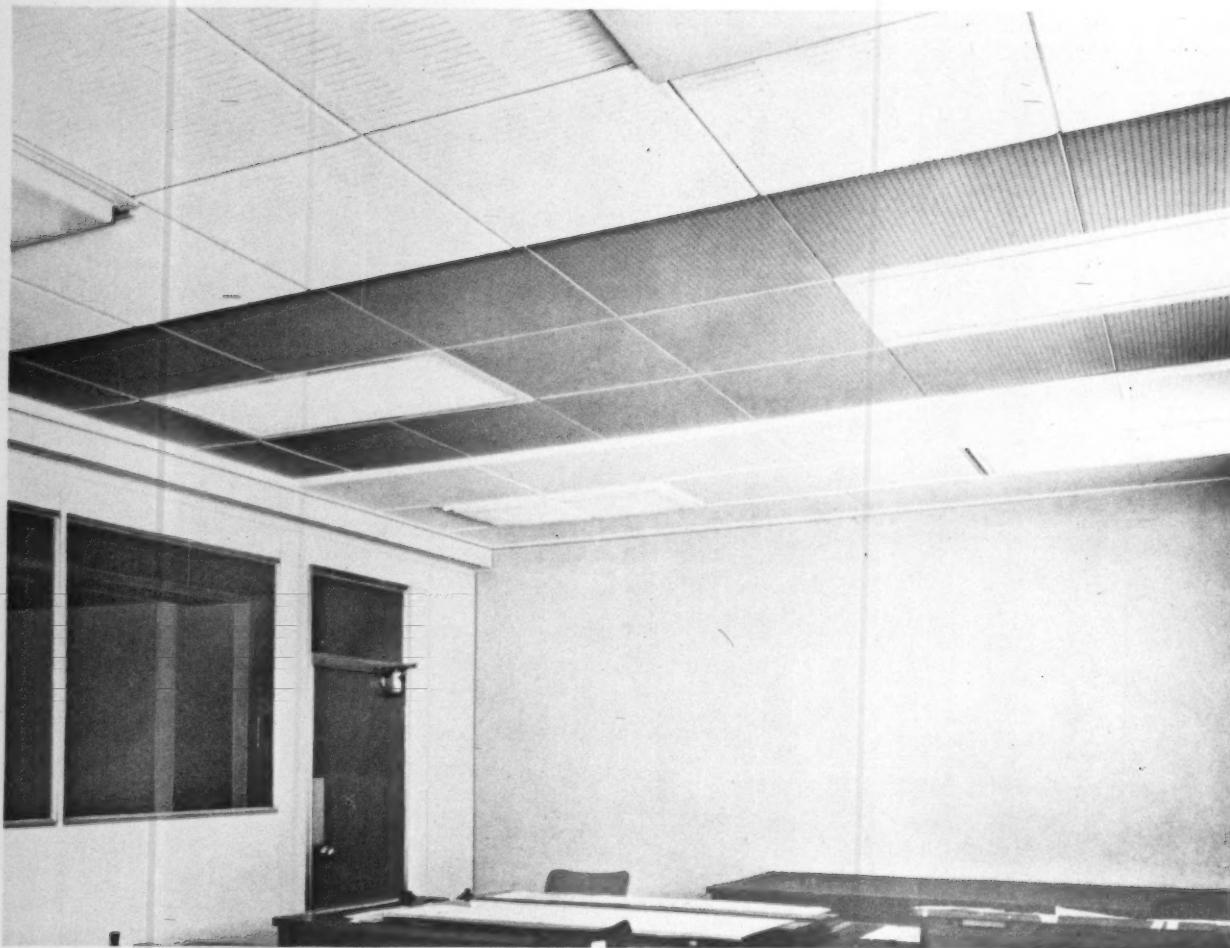




hille
CONTRACT DIVISION

HANDSOME IS, HANDSOME DOES—with his new Status Group, Robin Day introduces a truly protean modernity. At remarkably low prices, considering the materials and workmanship employed. Several basic broad desk tops, pedestals, panels, tables and storage cabinets combine in practically infinite permutations to match any space and function. Status has now joined other Hille furniture and fabrics in the many commercial and public building interiors being realised, and often originated, by Hille Contract Division; for example showrooms at Thorn House; offices at Belvedere Generating Station; bar, dining room, main lounge and bedrooms at Skyways Hotel. Visit our showrooms, 39/40 Albemarle Street, London, W.1, Hyde Park 9576, or 24 Albert Street, Birmingham 4, Midland 7378, or write for brochure.

Internationally-honoured furniture for homes and offices



FRENGER

HEATED AND ACOUSTIC CEILINGS

OFFER YOU

FREEDOM OF CHOICE

Freedom of choice enables you to use perforated or unperforated panels made of aluminium, steel, plaster or asbestos. It gives choice of heated, unheated or cooled ceilings and, because of its rapid response to automatic controls, freedom of choice of room temperature. All types of lighting can be incorporated together with a choice of panel colours.

FRENGER CEILINGS LIMITED, 7-12 TAVISTOCK SQUARE, LONDON, WC1. Telephone: EUSTON 6084/8
12 HARTER STREET, MANCHESTER 1. Tel: Central 4612 - 65 BALFOUR AVENUE, BELFAST. Tel: Belfast 28768

views and reviews

MARGINALIA

THE ARCHITECT IN YOUR LIFE

In a gesture that sums up as forcefully as anything the anomalous position of architecture among the other learned professions, the RIBA has issued in connection with Architecture Week 1960 (itself a major innovation) a series of posters on the theme of 'the architect in your life,' intended for exhibition in schools, libraries and similar places. The aim of the posters, designed by Theo Crosby with texts by Donne Avenell, is to bring the contribution the architect can make to modern life and environments to the notice of the general public—or, at any rate, the thinking part of it. It is inconceivable that doctors, say, or lawyers, should ever be brought to such a pass as this in their relations with the public, and it is much to the credit of the RIBA that they have tackled their difficult job with tact and delicacy—the great bulk of the posters

deal with the achievements of recent British architecture, and convey their message photographically with illustrations of work in such fields as housing, schools, recreation, town-planning, etc., but by far the most interesting are the three which expound the virtues on which the public can rely in architects: skill, experience and integrity. The last, I, is perhaps the most difficult theme to put across, but in the directness and economy of means employed, the poster that does so, reproduced in miniature herewith, is perhaps the most persuasive in the series.

MIDLAND PULLMANS

Design on British Railways has at last attained the level where it becomes plausible to speak of it as *good design*, and not merely as something which should be commended because the designer has done his best under difficult circumstances, or because there has been a designer at all. The new high-speed diesel trains, to be known as the 'Midland Pullmans,' which are to operate from Paddington and St. Pancras, at last reach a technical level comparable to the more famous named continental expresses—indeed, the ride and the sound insulation at speed are probably better even than the German specials such as the *Rheinblitz*.

But in addition to these mechanical excellences, the Midland Pullmans appear to inaugurate a new phase

1. poster from the 'architect in your life' series, issued by the RIBA.

There are 19,000 members of the Royal Institute of British Architects. Some architects work for local authorities or for government departments, or they form the design teams of banks, chain stores, brewers and other industrial building owners. Some architects work in private practice. These private architectural firms range in size from the big groups of sixty or more architects to the architect who works by himself. But the same strict code of professional conduct binds both the individual architect and the group within which he works.

This code of professional conduct demands of the architect a high standard of integrity. It is the client's guarantee that the architect who works for him is his personal and professionally-responsible agent. The Code, which defines the relations of the architect with his client and with society generally, is established by the Royal Institute of British Architects.

The RIBA represents the architectural profession in the United Kingdom. It was founded in 1834 and was given its first Royal Charter in 1837.

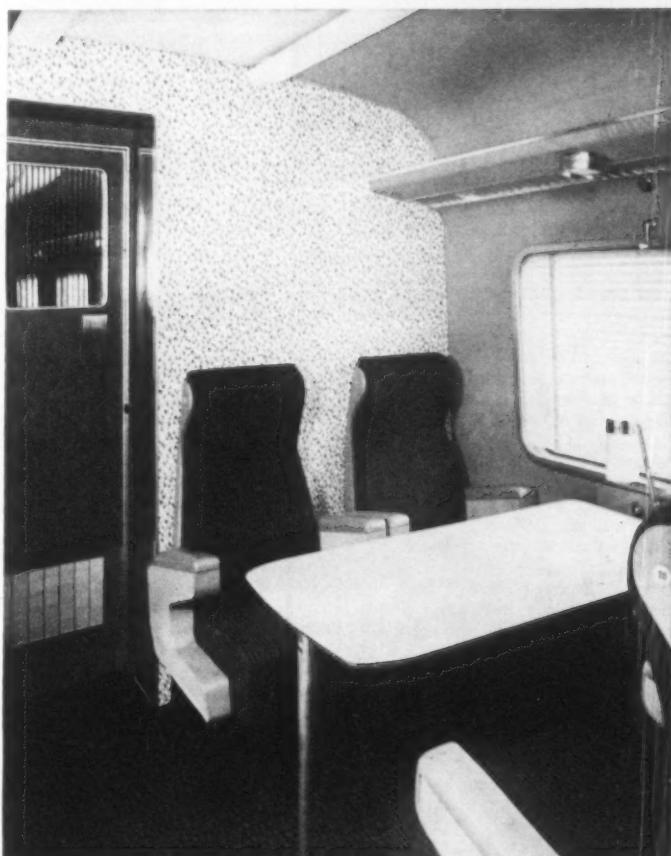
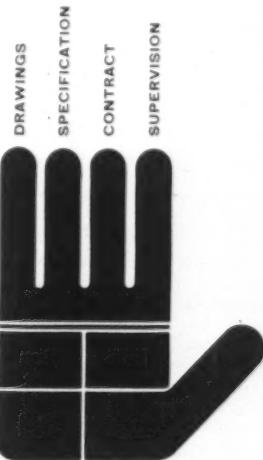
the ARCHITECT

offers you integrity

The headquarters are in London and there are 123 Allied Societies throughout the British Isles and the Commonwealth to which members belong.

Besides maintaining the professional standards of its members, the RIBA controls their education, defines their conditions of work and the terms on which they do it, puts their point of view in consultations with other professional bodies and with the government, disseminates technical information, and establishes contacts with architects abroad.

The RIBA exists not merely to maintain the interests of architects, but to improve their service to the community.



2. an eight-car train for the 'Midland Pullman' service. 3. interior of a second class parlour car.

visually. It is clear that the design-consultant, Jack Howe, has been called in earlier, and given a far bigger say in the project, than has been the case before. The whole train has been designed as a unit, both mechanically and aesthetically, and presents an unusual sense of integration, from its aggressive and characterful front end, 2, right through to the detailing of the interior, even in the second class, 3. What a photograph cannot illustrate, however, is the sense of unity given to the whole exterior by a very simple paint job applied to an almost flush sequence of carriage sides. The main colour is a strong nanking blue, which covers the whole visible and uninterrupted surface of the coachwork, except for a panel of white which embraces all the windows on each coach. This panel is not extended to form a continuous white streak all

down the train, air-liner-fashion, but is separate and distinct for each coach in decent acknowledgment of a fact that many modern-movement train designers have sought to disguise—that even a permanently-assembled train like this is still a sequence of separate carriage units.

Two minor quarrels might be picked with (a) the lettering, a shaded Egyptian which seems steam-age, rather than diesel-age, and (b) the Pullman crest, a florid Victorian coat-of-arms that seems not to have been handled with the gusto which it deserves—note, for example, the small spread of the one applied to the nose of the motor unit in 1. But these, plus a slight tendency to over-decorate the first class interiors, are practically the only real faults to find in a scheme which sets a new standard for British Railways.

VICTORIAN SOCIETY

The first annual report of the Victorian Society has appeared, and with it a new pattern in the architectural culture of Britain has emerged—the love of Victorian architecture is no longer the hobby of scattered individuals, but now has an institutional body in being, proven capable of sustained activity, and beginning to establish itself as an influence on constituted authority—one of the most hopeful paragraphs in the report concerns the establishment by the Minister of Housing of a committee to advise on the grading of Victorian buildings as historic monuments, a committee on which the Society is strongly represented.

Nevertheless, most of the report is less cheerful, as is so often the case when such societies are in their fighting infancy, trying to establish a foothold in public opinion, though it seems unduly hard that this very first report should also have to chronicle the deaths of two such formidable Victorian scholars as Goodhart Rendel and Peter Floud. The list of threatened buildings makes salutary reading, and gives the lie to those who allege that the Society is simply taking a sentimental stand in defence of inconsequentially picturesque relics of an age of bad taste. In fact, it is the masterpieces of the period that are under threat at this moment—Bunning's Coal Exchange, Salvin's Harlaxton, Barry's Mount Felix, Hardwick's Euston Station, houses by Burges, Shaw and Pugin, though in the last case, Abney Hall with an interior by Pugin and Crace, salvation has come in the form of purchase as a town hall for Cheadle, Cheshire. Apart from this, however, the situation looks very grave, and it might well be a useful early task for the Society to establish a canon of architects whose work is of major interest, and so thoroughly publicize the list that local authorities and other bodies will know at once that their works are to be touched only at their peril.

As we go to press, it is learned that the Minister's advisory committee on the grading of Victorian and Edwardian monuments have, in fact, virtually issued such a 'prohibited list' in their report. They 'agreed' that the chief works of the principal architects of the day should be included, and the list finally agreed for immediate intention comprises: Sir Charles Barry, J. F. Bentley, G. F. Bodley, William Burges, William Butterfield, C. R. Cockerell, George Devey, Charles Fowler, E. W. Godwin, Charles Holden, W. R. Lethaby, Sir Edwin Lutyens, W. E. Nesfield, J. L. Pearson, A. W. Pugin, E. R. Robson, Sir George Gilbert Scott, George Gilbert Scott, junior, H. Baily Scott, R. Norman Shaw, Leonard Stokes, G. E. Street, C. F. A. Voysey, Alfred Waterhouse and Philip Webb. It will be noted that this list spans from Sir Charles Barry to Charles Holden, whose death was reported in the AR only four months ago, and gives some idea of the length of the period which the committee now recommend should be put on a merit basis, instead of following the illogical date-grading that came in with the 1945 procedure.

CHANGE AT THE TYPE FRONT

Both of Lund Humphries's typographical periodicals are different now. The *Penrose Annual* (42s.) appears for the first time this year under the editorship of Allan Delafons, replacing the late R. B. Fishenden, which has resulted in minor changes throughout, though the general arrangement remains substantially the same. The aesthetic keynote is set this year by Kenneth Garland, art editor of *Design* magazine, in a lengthy rumination on the past and future of the modern movement, and the Moholy-Nagy tradition in particular, while collectors' pieces among the technicalia include a facsimile-transmitted copy of *Asahi Shimbun*, and an article on the damage done to book bindings by cockroaches eating the starch filler from the cloth. Somewhere in the middle are a pair of interesting reports on iron-curtain graphics from Poland and East Germany, and one of the last articles by the late Peter Floud, appropriately enough, on Morris wallpapers.

Lund Humphries's slighter but more frequent *Typographica* has now appeared with No. 1 of a new series (12s. 6d.), having run sixteen memorable issues of the old, still under Herbert Spencer's editorship. However, the characteristic all-Walbaum typography of the old has been replaced by fashionably Grotesque headings and bookish 'Venetian' text-face, which, combined with a slight change of format, has subtly but completely transformed the atmosphere of the magazine, even while the content remains much the same and makes it clear that *Typographica's* scholarly standards will be maintained. By far the most substantial and thought-provoking contribution to this issue is an essay by Henri Friedlander on *The History of Numerals*, though readers of the AR will also note a review, by Herbert Spencer, of Nicolette Grey's *Lettering on Buildings*.

CORRESPONDENCE

MILFORD HAVEN

To the Editors.

SIRS.—I was interested to read Raymond Spurrier's article in the April issue of THE ARCHITECTURAL REVIEW on the development of the Milford Haven area since, as prospective landlord of Lawrenny and its surroundings, I am naturally closely concerned with any planning there may be. Perhaps those who do interest themselves in this unique part of Pembrokeshire may like to know that we at any rate do not regard the existing situation with complacency.

Raymond Spurrier recognizes in his article that the owner, Colonel Lort-Phillips, did in fact commission Neville Conder in 1955 to draw up a plan for developing the Lawrenny Quay area. The fact that few of the points in his plan have yet been realized is due to a number of difficulties. In fact, the increasing emphasis on the large-scale development of Milford Haven in recent years has led us to think that the original plan is no longer far-reaching enough. This plan has not yet been implemented, partly for financial reasons. The reconstruction

of the Lawrenny Quay wall, on which Neville Conder's plan turned, was to be financed by the County Council. After 1955, in the era of the credit squeeze, the Council could no longer afford this, and to continue with the other plans before this step is settled would be premature and unwise. But it has also been held up because of all the talk and counter-talk of a tidal barrage. It is a question of knowing whether the yacht yard, which we are determined shall have a major part to play in the area, is to look for its customers among owners of large seaworthy yachts or to cater for dinghies and smaller craft. Until this question is decided, it is virtually impossible to plan and integrate the various facilities of the Yard.

Your article appears to assume that the barrage will be built, but opinion down here is that after the rejection of the Bill by Mr. Brooke, the scheme has been relegated to the very distant future. Clearly we can wait no longer, but must plan for an open waterway. This is what the present directors of the company would in fact prefer.

If this and some of the financial difficulties can be cleared up, and there seems good reason to hope that they now will be, there is nothing to prevent radical development of the whole area almost immediately. Because of the increase of interest in this area we think that a new plan could and should be drawn up with the help of expert advice, going beyond what was originally intended, perhaps creating provision for a number of new houses at Lawrenny Ferry. In any event we are determined not to begin work without a master plan for the whole area being drawn up.

Yours, etc.,
DAVID LORT-PHILLIPS.

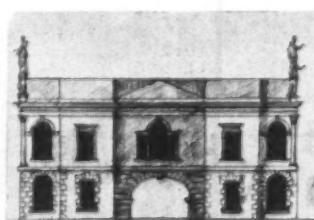
Lawrenny,
Kilkenny,
Pembrokeshire.

THE GREENWICH LAYOUT

To the Editors.

SIRS.—I wish to reply to the assumptions underlying Mr. Octavius Wright's plea for Inigo Jones as the designer of the Queens House pavilions ('The Greenwich Layout,' May issue). He quotes three tenets, all three open to serious doubt. In order to evaluate them I quote them and comment upon each one in turn.

(i) 'There is a Jones drawing showing pavilions.' This, RIBA BD 1/4¹⁰, was published by Mr. Chettle as a sketch by Jones, but a re-examination of the corpus of Jones-Webb drawings at the Royal Institute of British Architects, Chatsworth, and Worcester College, Oxford, strongly suggests Webb as its author. It is closely linked to his designs BD 1/4¹¹⁻¹², especially BD 1/4¹¹ where the staircases, later in



4, preliminary design for the Queens House, Greenwich, by Inigo Jones, c. 1616.

the main block, are placed in extruded angles between the main block and the pavilions. In these fully worked out drawings by Webb the north and south fronts have received a pilaster treatment indicating that at one stage Webb proposed a grand rebuilding of Jones's original conception. The pilasters link his designs to the sketch which has a triumvirate of pedimented porticos. Jones's draughtsmanship circa 1617 is perhaps illustrated by Worcester College series 1/58³, a preliminary design probably for the Queens House, 4, as no other building would have necessitated bridging a public street. The plan appears to be an H with pairs of projecting wings on the secondary fronts. The bridging arch is depressed so as to span a wide through-way. If this design belongs to a period immediately preceding the first building works, it shows that open loggias on the main fronts were then being considered although the present loggia of the Queens House belongs to the 1630's, the same decade as the Kings Lodge, Bagshot, 1631-32 and the Hale Park designs drawn by Webb in 1638 (BD IV 5¹⁻²).

(ii) 'The east and west roof parapets are not at present balustraded. . . . The inference that Webb would have made use of balusters had they existed on the inside walls of the H is purely hypothetical. The present balusters on the Queens House probably have been renewed several times. A parapet is usually the first element of a building to show signs of decay. The few seventeenth-century topographical views might suggest that balustrades did exist on these fronts.'

(iii) 'The terrace engages the whole of the north facade but 2½ feet at either end—an obvious provision for pavilions to be added. . . . Yet this terrace must certainly belong to the alterations of 1668. The archway between the horseshoe stair now has no function. It originally led to the vaulted basement beneath the Cube Hall. There are structural remains of the old basement entrance to show that Jones's terrace projected less and was conceived circa 1635 as his sketch indicates. (BD 1/4¹.) This is inscribed, "for ye dour in to ye volte under ye tarras grenewich 1635." Later in his article, Mr. Wright suggests that the horseshoe form was inspired by the special topography of the Isle of Dogs. Surely this is pure fiction?'

The facts which follow these assumed tenets are equally unconvincing. A three-chain square (fact 2a) is not unusual and was familiar to Webb, as is borne out by an examination of his theoretical drawings. The Painted Hall at Greenwich is better described as three cubes—a common enough proportion. There can be no possible relationship between the cubic plans of Webb's pavilion scheme and Wren's proportions of the Painted Hall (fact b). Surely it is wilful to relate all this to the symbols of the Trinity?

The co-linearity of the points drawn by Mr. Wright to show an apparent site relationship between the pavilioned Queens House and the Wren layout must also be coincidental, although it seems almost certain that Webb's drawings were in Wren's office at Greenwich and were later owned by Hawksmoor. Mr. Wright confuses

ABSOLUTELY OUTSTANDING!

Two winters' weathering proves Manderlac's superiority

As a test, an architect in North Wales had eight caravans on one of his sites painted with different manufacturers' materials. Two and a half years' weathering have left the caravan painted with Manderlac as good as new—in the Architect's own words, "Manderlac is absolutely outstanding".

a **MANDERS** case history



MANDERLAC Alkyd Enamel dries quickly, to a hard surface that stays bright, and keeps its protective powers for years. It is easy to clean, covers well even on sharp edges and is so lustrous that it 'looks wet when it's dry.'

WRITE FOR FULL DETAILS AND COPIES OF THE WONDERFUL MANDERLAC COLOUR RANGE.

MANDERS

MANDERLAC
... proved the best

MANDER BROTHERS LTD., Dept. F8, WOLVERHAMPTON • Tel. WOLVERHAMPTON 20601



a bidet to complete the Kingston trio

This 'Standard' Bidet completes the trio of products with the name Kingston. The others are a lavatory basin and a closet. All three are characterised by design that is both elegant and sensible. And these fine shapes are made in 'Standard' vitreous china. This material is non-porous so that hygiene is not solely dependent on the glaze. And its strength makes it highly resistant to accidental damage. When you want fine design in the right material, specify 'Standard' vitreous china.

Kingston bidet by Standard



MANUFACTURED BY IDEAL BOILERS & RADIATORS LTD • IDEAL WORKS • HULL

the issue; for any relationship must be between the Webb of 1668 and Wren, not with the earlier Jones. It is equally difficult to see why Mr. Wright suggests as the source for the Webb sketch the Chateau of Chalvau as engraved by Du Cerceau. There is no similarity of elevation and in any case the use of Du Cerceau was not only confined to Jones. Webb's theoretical drawings of the 1630's draw heavily upon the French volume, and the reason why it is not to be found in Jones's library (as existing at Worcester College) may well be because the copy had passed into Webb's possession.

Mr. Wright's final arguments appear diffuse and difficult to comprehend in the light of documentary evidence. The slightly asymmetric alignment of the Charles II block in relation to the Queen's House is read by Mr. Wright as supposing the eventual addition of the pavilions. But he seems unaware that provision for the central wing linking the (proposed) east and west wings was shown on the working designs as low single-storey pavilions. They were probably begun and discontinued when the south face of the Charles II block was reconstructed as it stands today. This west range was begun from necessity, not choice, as the proposed central hall or chapel was an extra consideration to the needs of accommodation. As events turned out, none of Webb's elaborate designs for the interiors were executed and the decorative adjuncts were kept to a bare minimum.

The supposition that Jones conceived the Greenwich complex from the first is theoretically interesting but unsupported by any documentary evidence. For a palace layout of this scale the direction of Jones's ideas can be studied in his Whitehall schemes of the 1630's. It is unwise to magnify the small and original 'conceit' of the Queen's House into one unit of a pre-ordained complex. The final result was only brought about by the additive work of several architects over the next century.

Yours, etc.,

JOHN HARRIS.

London, W.1.

BOOK REVIEWS

THE BIG CHIEF

A TESTAMENT. By Frank Lloyd Wright. Horizon Press, New York; Architectural Press, London. 70s.

FRANK LLOYD WRIGHT DRAWINGS FOR A LIVING ARCHITECTURE. Published for the Bear Run Foundation Inc. and the Edgar Kaufmann Charitable Foundation by the Horizon Press, New York. \$35.00.

It was a little tiresome to find Sir John Rothenstein, in a recent *Observer* article, falling for that old chestnut about Frank Lloyd Wright and the leaking roof, a story Wright probably invented against himself. Sir John used this story to reinforce the fiction that Wright was not concerned with detail. This is, of course, the very stuff that myths are made of, but hardly worthy bait for so big a fish as the Director of the Tate. It belongs with Palladio's missing staircase and Vanbrugh's chimneys among 'Tales told to the Children.'

It would be surprising indeed if Wright, who built upwards of 500 private houses, the earliest dating back to 1887, never had trouble with his roofs. To-day some of these houses have no roofs at all; they have been burnt, neglected and pulled down to make way for 'progress'; but a great many survive and their standard is as varied as their cost. Wright designed houses on the one hand for the very rich, like the McCormicks, and on the other for people like the Jacobs and Bergers who had so little money that they built these houses with their own hands. No doubt some of Wright's clients didn't quite get what they wanted, some spent more than they expected to, and many waited for years for him to produce his plans. But the great majority found in these houses the kind of spiritual satisfaction that for many can only come from major works of art. Wright had the quite extraordinary ability to create houses which were at once good homes and great art. He did this over and over again, hence the ambition of so many to want 'a house by Mr. Wright' and wait a long time for it. He seemed to have an uncanny understanding of a client's real needs, and when allowed clothe these in a richness which is often a miracle of detailing.

These two books, which were under preparation at the time of Wright's death, are not intended primarily to give a picture of him as a purely domestic architect. Indeed, they are clearly intended to show Wright as an architect of great visionary projects. Yet it is his brilliance as a designer of houses which shines out and the reason is not far to seek. It arises in part from the complementary nature of the books; the *Testament* shows photographs as well as plans and perspectives intended for publication—and how beautiful these plans are as black arabesques on the white page—the *Drawings* shows Wright's original sketches for various projects and jobs. It is just because so few of the really 'grand projects,' like the Huntingdon Hartford Country Club and the Bagdad schemes, ever got beyond these sketches, while so many of the houses seen here, first as preliminary ideas, became completed buildings that this aspect looms so large.

Not that the visionary schemes are unworthy of study. For all their frightening grandiosity they show Wright's genius for 'place,' but this he had equally for small buildings. Few can pretend that all these drawings are attractive, yet all are explicit and descriptive and many are delicately beautiful. They often give a much better idea of the buildings they present than do the final photographs; this is true of Wright's most magical building 'Bear Run' which does not, as photographs seem to show it, jut out from the side of a hill, but nestles at the bottom of an overgrown dell as in Wright's perspective.

Drawings for a Living Architecture (there are some 200, many in coloured facsimile) is a much more ambitious, if not pretentious, publication than *A Testament*. It is intentionally a 'rare book' and, therefore, expensive. However, most of the important buildings appear in the *Testament*, which probably gives the clearest picture yet of Wright's work and ideas and both the drawings and photographs are

excellent. Those who look for a sort of distillation of wisdom will be disappointed. Wright was never given to the clear precise statement, but in this book his observations are at least reflective rather than propagandist. There is much in it that is tedious (homespun philosophy and private joking) but there are also some shrewd observations about his contemporaries, which included H. H. Richardson and Mies van der Rohe.

It is perhaps impossible for anyone who has not seen a major Wright building to understand the awe in which he is held by those who have. In spite of the firmly classical forms which underly them, they are a native American concoction. To extend Philip Rahv's literary classification, Wright was as much a 'Redskin' as Whitman; indeed, he was the big chief always battering at the stockades of the successful palefaces, like McKim Mead and White and Uncle Dan Burnham who tried (without success) to persuade him to go to the Ecole des Beaux Arts. Seldom did Wright succeed in getting behind the paleface stockades. There are few significant buildings of Wright's in the larger American cities, except the Guggenheim Museum and that is a wigwam—albeit a beautiful wigwam—among the paleface block houses.

Perhaps the greatest tribute to Wright's genius is that while the palefaces kept him out of their stockades, they united in admiration of his prairie architecture. Hyatt Mayor (the drawings curator at 'The Met.' a Jamesian sophisticate) goes far in explaining the magic of these drawings: 'He (Wright) refrains from drawing until he has meditated the building in all essentials. As he alters, in his imagination, a precise and still fluid idea, each afterthought automatically readjusts the whole, the way a puff of breath reshapes the whole of a cloud of tobacco smoke.'

'In leaving us,' wrote James Fitch in his obituary of Wright, 'he has bequeathed an architecture as much enriched and deepened as the English language upon the death of Shakespeare.' Could praise be greater than this; made while the smoke still rises from the funeral pyre of the old warrior—one of the last Americans, as Mumford calls him.

Felix Atkinson

THE LOO THROUGH THE AGES

CLEAN AND DECENT. By Lawrence Wright. Routledge & Kegan Paul. 50s.

Most readers will have a few fixed ideas about plumbing and history: that the Dark and Middle Ages were dirty ages; that dogs relieved themselves in baronial halls, and courtiers on the staircases of Versailles; that bad drains brought the Plague to London and later the Cholera. Visits to Roman villas have impressed on us that British plumbing was never quite the same after the Romans left.

We are not, therefore, surprised, in Mr. Wright's presentation of the result of his researches into 6,000 years of sanitation, to see that a bath from Knossos looks so like the tin variety which still lurks in country house attics, or to learn that Egyptians had efficient sand-closets. We find also that cleanliness in the Middle Ages was closer to Godliness than is generally supposed. Monasteries had running water (cold if not hot) for washing and

flushing lavatories. Except for such dedicated individuals as St. Agnes, who died unwashed at 13, hot baths were taken by rich and poor. Bathing was communal and mixed, for there was no false modesty between the sexes. A contemporary woodcut shows a knight and his lady relaxing in the tub. In another, a family of three are eating a meal off a board placed across their bath. Stews (hot public baths) and bagnios had no pejorative sense at this time, though St. Benedict saw the red light when he pronounced public baths to be 'hot-beds of vice.' Bagnios were not banned from England until Henry VIII's reign.

'I thowt 'twas the will o' the Lord but Miss Annie she said it wur draains.' The poet bewails the death of the *squire's*, not the *cottager's*, darter. Mr. Wright remarks that the rich with their inefficient pans and cess-pools often fared worse than the poor with none at all. As late as 1871, the Countess of Londesborough's drains nearly finished off the Heir Apparent. At Windsor there were 53 overflowing cesspits before the Prince Consort took matters in hand, while at Leeds, in the 1830's, 'whole streets were floating in sewage.' Yet Mr. Wright is inclined to blame cheap gin as much as bad drains for the cholera epidemics.

The bath's later history is less dramatic. After the decline of the public bath, it became a mildly erotic symbol associated with naughty ladies. Until stopped by nineeenth-century kill-joys, both sexes still plunged about (heavily-robed) in the waters of Bath. A mid-nineteenth-century craze was the Water Cure, with strange treatments such as the Bran Bath, Gargling Bath, Nose Bath, Hot Sitz and Back Sponge, Wet Socks, Wet Dress Bath. All that remains is the word 'Hydro' and a few gaunt hotels.

The author touches briefly on toothpaste, razor-blades, and soap; on juries mediaeval, musical, and artistic, such as one (owned by the British Transport Commission) with turquoise lining and red and green roses. He refers to our insular dislike of the continental bidet, and to that hissing dragon which has terrified so many Fulbright scholars—the British geyser. The illustrations (some from nineteenth-century catalogues) often verge on the grotesque. Among the weirdest are Viollet le Duc's 'Fontaine Lavabo,' and an *art nouveau* lavatory pedestal.

Before laughing at our primitive ancestors, we should remember that there are still houses with TV but no bath or WC; that a short time ago the sanitary habits of wartime evacuees were a national shock; that American guide-books still advise readers to take their own toilet-paper to any British hotel. How many WCs (the author asks) flush properly at the first pull? How many do not freeze at the first opportunity? People no longer empty chamber-pots in the street, but they have no compunction in strewing town and country with litter.

Mr. Wright is no 'Specialist.' He leads the way down these discreet corridors of history in an urbane and entertaining manner, nearly always avoiding the temptation to be facetious or suggestive. The illustrations, an integral part of his book, have been particularly well chosen.

Peter Clarke



Reinius and Eriksen's bold concrete watertower in the centre of the Swedish township of Örebro stands as a check-point for the progress of the functional tradition in our time and there is no reason why English works need fall behind it in rational adventurousness—the tank was cast on the ground and jacked up (all 3,200 tons of it) in short lifts while the stem was cast in rings below it; nor in logical form—the stepped underside of the tank was developed from the need to provide anchor points for the pre-stressing cables; nor in urban sensitivity—not only is it a striking visual focus for the town, but its head serves communal non-utilitarian functions, such as carrying a television mast and a broad restaurant terrace with commanding views of town and country.

Peter Collins

HISTORICISM

The historians of modern architecture, by the very nature of their subject, cannot resist the temptation to be up to date. Henry-Russell Hitchcock finishes his *Architecture Nineteenth and Twentieth Centuries* (1958) with buildings constructed in 1956; Jürgen Joedicke's *History of Modern Architecture* (1959) includes photographs of models, such as that of Utzon's Sidney Opera House, yet to be built. The result is that architects are incessantly being reminded that everything they create forms a link in the chain of architectural development, and that their own work must therefore have some classifiable elements of novelty if the theory of evolution is to have any validity in the domain of art. The art historians, to use Gerhard Kallmann's phrase, are breathing down the architects' necks.

Hitchcock faces this problem squarely in the last chapter of his distinguished book. 'The very extent in time of what should be considered "the present" is a subjective matter,' he writes. 'I have known American architectural students whose present was so limited that they had never heard of Perret! To anyone under thirty the effective present will hardly extend backward more than five or ten years.' Yet even ten years is a precious insulation against Historicism, and one which is essential if architecture is to develop in an uninhibited way. It represents the distinction between the history and theory of architecture. Recent developments in architectural historiography seemed at one time to be encouraging the assertion of this distinction by showing a greater objectivity as compared with the histories of a century ago. Indeed, so objective have architectural historians now become, that they rarely permit themselves any qualitative assessment at all beyond 'crisp' or 'jolly.' Yet there are greater dangers than partiality in historical writing, for partiality can at least be perceived and refuted, whereas up-to-dateness exerts a subconscious influence which only advertising agents can claim to assess. History undoubtedly ends with the present, but historical studies must end sometime

before then if we are to avoid confusing history with prophecy. One only has to look at the buildings admired twenty years ago to see how hazardous it is to anticipate the historical values which should be set on what we are now building ourselves.

It is not, I suspect, sufficiently realized that the distinctive character of modern architecture, or in other words the essential difference between architectural ideas before 1750 and architectural ideas since 1750, derives almost entirely from a new kind of awareness of history. It would be quite wrong to assume that the study of history is a natural, inherent, inevitable kind of human activity, or that it has been regarded in all ages as a distinctive form of thought. The Greeks were not interested in history because it is concerned with what is transient and changing, with facts in a space-time location, whereas the scholars of Antiquity were more concerned with what was permanent and immutable, such as is expressed by mathematics. The Roman historians such as Livy did begin their histories at a more remote period of the past than the Greeks (whose histories were little more than contemporary chronicles) but their aim in doing this was to show the Eternal City as having existed ready-made from all time, so that they could hold up the mythical morality of its first citizens as an example to their contemporaries. Mediaeval scholars had no more critical awareness of history than the scholars who preceded them, since they merely substituted the authority of theology for that of mathematics, and thought it incumbent on them to interpret the past entirely in terms of the Divine Plan.

With the advent of the Renaissance, historical thought followed Greek and Roman traditions, although it was soon to be modified by the influence of Descartes, whose scientific method was applied to historical research. It was in this age that manuscripts were first accurately dated and scientifically evaluated, and that non-literary documents, such as inscriptions and coins, were first used to check the narratives of



Reinius and Eriksen's bold concrete watertower in the centre of the Swedish township of Örebro stands as a check-point for the progress of the functional tradition in our time and there is no reason why English works need fall behind it in rational adventurousness—the tank was cast on the ground and jacked up (all 3,200 tons of it) in short lifts while the stem was cast in rings below it; nor in logical form—the stepped underside of the tank was developed from the need to provide anchor points for the pre-stressing cables; nor in urban sensitivity—not only is it a striking visual focus for the town, but its head serves communal non-utilitarian functions, such as carrying a television mast and a broad restaurant terrace with commanding views of town and country.

Peter Collins

HISTORICISM

The historians of modern architecture, by the very nature of their subject, cannot resist the temptation to be up to date. Henry-Russell Hitchcock finishes his *Architecture Nineteenth and Twentieth Centuries* (1958) with buildings constructed in 1956; Jürgen Joedicke's *History of Modern Architecture* (1959) includes photographs of models, such as that of Utzon's Sidney Opera House, yet to be built. The result is that architects are incessantly being reminded that everything they create forms a link in the chain of architectural development, and that their own work must therefore have some classifiable elements of novelty if the theory of evolution is to have any validity in the domain of art. The art historians, to use Gerhard Kallmann's phrase, are breathing down the architects' necks.

Hitchcock faces this problem squarely in the last chapter of his distinguished book. 'The very extent in time of what should be considered "the present" is a subjective matter,' he writes. 'I have known American architectural students whose present was so limited that they had never heard of Perret! To anyone under thirty the effective present will hardly extend backward more than five or ten years.' Yet even ten years is a precious insulation against Historicism, and one which is essential if architecture is to develop in an uninhibited way. It represents the distinction between the history and theory of architecture. Recent developments in architectural historiography seemed at one time to be encouraging the assertion of this distinction by showing a greater objectivity as compared with the histories of a century ago. Indeed, so objective have architectural historians now become, that they rarely permit themselves any qualitative assessment at all beyond 'crisp' or 'jolly.' Yet there are greater dangers than partiality in historical writing, for partiality can at least be perceived and refuted, whereas up-to-dateness exerts a subconscious influence which only advertising agents can claim to assess. History undoubtedly ends with the present, but historical studies must end sometime

before then if we are to avoid confusing history with prophecy. One only has to look at the buildings admired twenty years ago to see how hazardous it is to anticipate the historical values which should be set on what we are now building ourselves.

It is not, I suspect, sufficiently realized that the distinctive character of modern architecture, or in other words the essential difference between architectural ideas before 1750 and architectural ideas since 1750, derives almost entirely from a new kind of awareness of history. It would be quite wrong to assume that the study of history is a natural, inherent, inevitable kind of human activity, or that it has been regarded in all ages as a distinctive form of thought. The Greeks were not interested in history because it is concerned with what is transient and changing, with facts in a space-time location, whereas the scholars of Antiquity were more concerned with what was permanent and immutable, such as is expressed by mathematics. The Roman historians such as Livy did begin their histories at a more remote period of the past than the Greeks (whose histories were little more than contemporary chronicles) but their aim in doing this was to show the Eternal City as having existed ready-made from all time, so that they could hold up the mythical morality of its first citizens as an example to their contemporaries. Mediaeval scholars had no more critical awareness of history than the scholars who preceded them, since they merely substituted the authority of theology for that of mathematics, and thought it incumbent on them to interpret the past entirely in terms of the Divine Plan.

With the advent of the Renaissance, historical thought followed Greek and Roman traditions, although it was soon to be modified by the influence of Descartes, whose scientific method was applied to historical research. It was in this age that manuscripts were first accurately dated and scientifically evaluated, and that non-literary documents, such as inscriptions and coins, were first used to check the narratives of

early writers, thus leading the way to the archaeological researches of the modern age. But it is a curious fact that although the study of ancient buildings and ancient manuscripts had formed an inevitable counterpart to the revival of Antiquity, history itself had little influence on seventeenth and early eighteenth century thought, because people then, like those of Antiquity, were more interested in the present than in the past. History was rarely taught in schools before about 1760, when it was introduced into the Dissenting Academies by such teachers as Joseph Priestley. Chairs of modern history had been founded at Oxford and Cambridge in 1724, but no lectures were delivered at Cambridge until 1773, whilst at Oxford the chair was usually occupied by such people as Thomas Gray, the poet. No chair of history was established at the Collège de France until 1769.

The first modern history ever to be written, according to Eduard Fueter, was Voltaire's *Siècle de Louis XIV*, published in 1751. The first history of architecture was that included as the first section of J. F. Blondel's *Architecture Françoise* of 1752. Others had written biographies of architects, and numerous travellers had published descriptions of ancient buildings, but apart from Fischer von Erlach's highly fanciful collection of engravings entitled *Historical Architecture*, there was no other book which assembled in chronological sequence a description of buildings from the time of the Egyptians, nor were there any lecture courses on the subject before Blondel opened his school of architecture in the rue de la Harpe.

Blondel had contributed all the articles on architecture in the *Encyclopédie*, so that it is not unnatural that he should have undertaken a task so much in harmony with the theme of that work.* But being, like the other *Encyclopédistes*, a rationalist, he did not think of the past as a collection of disparate styles, but as a progressive series of improvements, interspersed by occasional retrogressions, which had culminated in the architecture of his own day. Graeco-Romano-Renaissance architecture was for him simply 'Architecture' ('It was in the reign of Francis I,' he wrote, 'that architecture began to regain favour in France'), and since architecture thus meant for him the forms invented by the Greeks, improved by the Romans, perfected by the French, and used more or less correctly by every architect in Europe and America, he was incapable of seeing any Roman or Renaissance modifications as either current or obsolete, but only as either good or bad. He was in fact not an historian at all but a theorist (which was all he ever claimed to be), and since there could be no theoretical value for him in studying primitive or non-classical architecture, he confined himself to recounting the *literary* descriptions of ancient buildings extracted from the most celebrated authors of the past.

It was not until about 1820 that any general illustrated histories of architecture, such as we know them today, were published, and these were made possible only by the large number of monographs on Greek, Gothic and Oriental architecture published during the previous seventy years. Most of these general

histories have the distinctive characteristics of Voltaire's historical works; they are critical, scientific, evolutionary, concerned with all eras and countries, and designed primarily to trace the origins and progress of varying manners or styles. Also, like Voltaire's histories, they aim at radical reform, and display, for all their occupation with the past, a dissatisfaction with the present and a great concern for the future. It is in these historical surveys, published between 1820 and 1850, that the demand for a New Architecture first appears.

One of the earliest expressions of this demand occurs in James Elmes's *Lectures on Architecture, comprising the History of Art from the Earliest Times to the Present Day*, first published in 1821. Elmes was a successful practising architect, but though he sided with what he calls 'the Greek faction,' this did not blind him completely to the dangers and frustrations which the co-existence of stylistic factions entailed. 'An indiscriminate patronage of ancient or foreign art is not the encouragement now required by the British School,' he proclaimed; 'had the Greeks fostered alone Egyptian art, they would certainly never have become the inventors of their own pure style. The Romans, on the contrary, by their exclusive patronage of Greek architects, are known only as degenerates, instead of inventors or restorers.'

Another architectural historian to profess dissatisfaction with current architecture was Thomas Hope, whose *Historical Essay on Architecture* was published in 1835. Being an amateur, he was under no obligation to demonstrate the practicability of his speculations, and was therefore free to propose reforms without restraint. 'No one,' he wrote, 'seems yet to have conceived the smallest wish or idea of making the new discoveries, the new conquests, of natural productions unknown to former ages, the models of new imitations more beautiful and varied, and thus of composing an architecture which, born in our country, grown on our soil, and in harmony with our climate, institutions, and habits, at once elegant, appropriate and original, should truly deserve the appellation of "our own".'

The culmination of the first great age of architectural historiography was James Fergusson's *Illustrated Hand-Book of Architecture*, first published unsuccessfully in 1849, revised and re-issued in its complete form in 1855, and eventually enlarged and extended in 1865 to form his famous *History of Architecture in all Countries from the Earliest Times to the Present Day*. Fergusson's main purpose in publishing his *Handbook* was to effect a return to 'the true principles which might guide us in designing or criticising architectural objects' by means of the study of all buildings constructed before 1500. He had no doubt that a New Style could be created, because, as he explained in his introduction, no nation in any age or in any part of the globe had failed to invent for itself a true and appropriate style of architecture whenever it chose to set about it in the right way. 'What that process is,' he announced, 'may perhaps be best explained by an example, and as one of a building character, though totally distinct, let us take ship-building,' which he did. He confessed that no architect had shown any ability to put the philosophy

* The article on 'History' had been contributed by Voltaire.

he recommended into effect, but found satisfaction in contemplating the Crystal Palace which was, he claimed, 'at least one great building carried out wholly in the principles of Gothic or of any true style of art.'*

In the past century, the reforms which Fergusson demanded and predicted have come into effect, but Historicism, the curse of the nineteenth century, has not for that reason been exorcised, mainly because architectural historians are deliberately or unconsciously keeping it in being. Sigfried Giedion goes so far as to assert that historical self-consciousness is a good thing, and that the trouble with the nineteenth century was that 'it lost all sense of playing a part in history,' people then being either indifferent to the period in which they lived or hating it. It is undoubtedly true that nineteenth-century architectural historians did not think many buildings of their own century worth recording, but then, neither does Giedion. Auguste Choisy, in his *History of Architecture* published in 1898, only mentions two buildings constructed in France since 1789 (namely the Halle au Blé and Labrouste's Bibliothèque Nationale), but then Giedion himself does not mention many more. It is all very well to lament the fact that nineteenth-century documents concerning urban development or new mechanical inventions were not scrupulously preserved for historical inspection, but this would seem to me a very healthy defect; for as Parkinson's Law seems to indicate, as soon as organizations start deliberately filing their records with a view to future historical research, there is every probability that their organization has ceased to be of any historical importance whatsoever. If the architectural innovators of the nineteenth century omitted to preserve their records, it was perhaps because they strove to emulate a tradition for which there were virtually no contemporary documents left.

The term 'contemporary history' was invented by Giedion, and its meaning explained by him in the opening pages of *Space, Time and Architecture*. It does not mean, as it would for a political historian, the history of his own times, but a selection of those structural and spatial developments of the past few centuries which seem to him relevant to the creative needs of the present age. But this is precisely what the late nineteenth-century architects understood by 'theory.' If we compare *Space, Time and Architecture* with Julien Guadet's *Elements and Theory of Architecture*, published in 1894, we find that the former treats the development of forms in much the same way as the latter. When Guadet discusses the spatial and structural possibilities of masonry stairways, he does so by exemplifying all the various masonry stairways constructed since the Middle Ages, just as Giedion explains the steel frame aesthetic by tracing its development from the cast-iron factories of Boulton and Watt.

There are of course major differences between the philosophies inspiring these two books. One is that whereas Guadet, lecturing so soon after Viollet-le-

Duc's disastrous course on aesthetics at the Ecole des Beaux-Arts, considered it wise to be ostentatiously impartial in his selection of historical examples, Giedion's analysis is frankly tendentious, even within the limits of the Modern Movement itself. Neither Mies van der Rohe nor Alvar Aalto were included in the first edition of *Space, Time and Architecture*, which was essentially a justification of the doctrines of CIAM, of which he was secretary. But there is a more important difference than this. Whereas Giedion very rightly keeps revising his book to bring it continually up to date, Guadet, from the first, rigorously excluded all mention of the works of living architects because he thought it indecorous for a professor to comment on his colleagues' work. 'Amongst the works of your masters,' he announced in his inaugural address, 'there are some which, luckily for our epoch, will not only be classics in the future, but are so today. But you will appreciate that I cannot instruct, indeed must not instruct, by taking examples from among the works of living architects, because no professor wants to risk being accused of flattery.' As a result, the *Elements and Theory of Architecture* went through five editions in ten years with the text unchanged.

We thus find the paradoxical situation that whereas the twentieth century tries to give its histories of architecture the up-to-dateness of theory, the nineteenth century tried to give its theory of architecture the objectivity of history. Both attitudes are wrong, but they represent little more than a demarcation dispute, and it is to be hoped that theorists and historians will soon be able to settle the matter by direct negotiation, without subjecting contemporary architecture to the inconvenience and disruption of a crippling aesthetic strike. We cannot escape our awareness of history; of what Le Corbusier calls '*L'homme dans le temps et dans le lieu*'; but we can mitigate its more harmful effects on architectural creativity by maintaining a clear distinction between the history and theory of art. It is becoming less and less easy to do this because Historicism, after having imposed itself on biology a century ago by means of the theory of evolution, has now begun to control our basic thought-processes as a result of the importance now attached to psycho-analysis. Psychologists and sociologists have discouraged the nineteenth-century emphasis on abstract moral judgments of goodness and badness, right and wrong, in favour of the accumulation of *case-histories* of those who appear to express their emotions in an unusual way, and so architectural historians may well feel that they, too, are able to provide a substitute for traditional principles, and the value-judgments these require, by simply analysing, classifying, and tracing the origins of the newest architectural forms backward into the past. Architects have certainly many advantages in knowing the precedents for any forms they use, but none in seeing the forms themselves prematurely pigeon-holed; indeed, nothing but frustration can result from labelling nascent developments with catchwords, and categorizing their first expressions as paradigms, before the creators themselves are clearly aware of what they are aiming at, and before it is certain that the forms produced are of any historical worth.

*In view of the publication in the AR for April 1960 [pp. 280-282] of a detailed description of Marshall's Flax-Mill in Leeds, it may be remarked that Fergusson considered that this revolutionary industrial structure (less the façade) would have been more suitable for the British Museum than the building constructed by Smirke [see J. Fergusson: *Observations on the British Museum, &c.* (1849), pp. 39-48].

UNDERGRADUATE ROOMS, ST. JOHN'S COLLEGE, OXFORD

With ever more grandiose plans for the extension, reconstruction or creation of Britain's younger universities being announced month by month, Oxford and Cambridge as patrons and encouragers of architecture are becoming somewhat overshadowed. However, their efforts cannot be, by any means, written off—the amount and quality of modern building they are commissioning is, in fact, gradually increasing, and greater increases are to be anticipated.

It is in the nature of the works these universities require that the results shall be fragmentary and scattered—a group of lecture rooms here, extensions to a college there, rarely anything as large and self-complete as Churchill College, Cambridge. Furthermore, patronage is also scattered and diffused, with some work commissioned by the University at large, some by individual colleges, with the result that there is no overall picture of a unified and comprehensive architectural policy—not even the kind of diversity in unity underlying current developments in Birmingham.

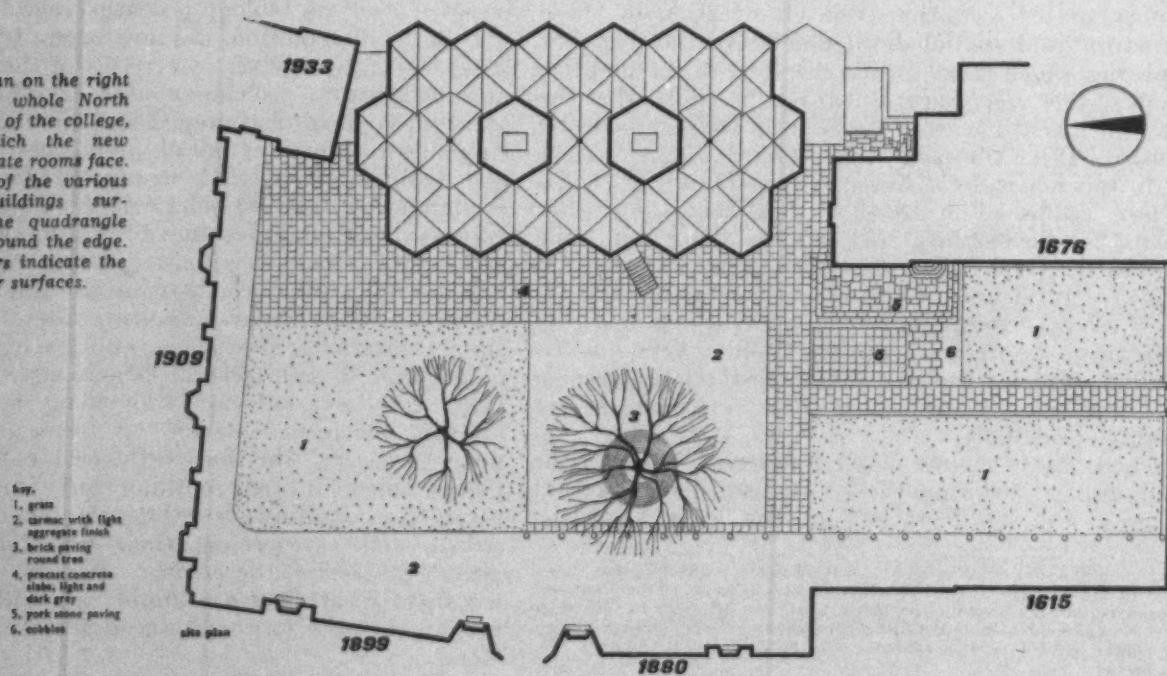
But, over and above these considerations, there is the difficult position of individual colleges to consider. In almost every case, any new work they commission must be fitted into an existing environment either of hallowed antiquity or, at least, carefully contrived Victorian 'character.' Two difficulties ensue: firstly, the commissioning of progressive designs tends to become psychologically difficult, particularly where any large part of college business is subject to a graduate vote, since the ties of sentimentality in absence that link scattered alumni to the college usually have an image of the antiquity or character of the place as their visual focus: secondly, when a progressive architectural office has been commissioned, there still remains the architectural problem of fitting the new work into the existing environment.

It now appears to be accepted that the surgical and forcible introduction of diagrammatically new work, complete in itself and regardless of its surroundings, cannot be tolerated, however much this may grieve determined Modernists, but this does not imply an unthinking relapse into stylistic Keeping in Keeping. The alternative is well seen in the new work for St. John's College, Oxford, which is described and illustrated here.

The first break with Keeping in Keeping was made, cautiously and in an idiom of studied neutrality, in the work undertaken for St. John's some five years ago by Booth and Ledeboer (AR, November 1957) in which the character of the place was interpreted, not in terms of style, but of materials, volumes and spaces. The new work by the Architects' Co-Partnership, which almost adjoins Booth and Ledeboer's, though its main elevation is on the opposite face of the range of buildings of which both form part, maintains the same considerations but adds another: the character of the Oxford skyline.

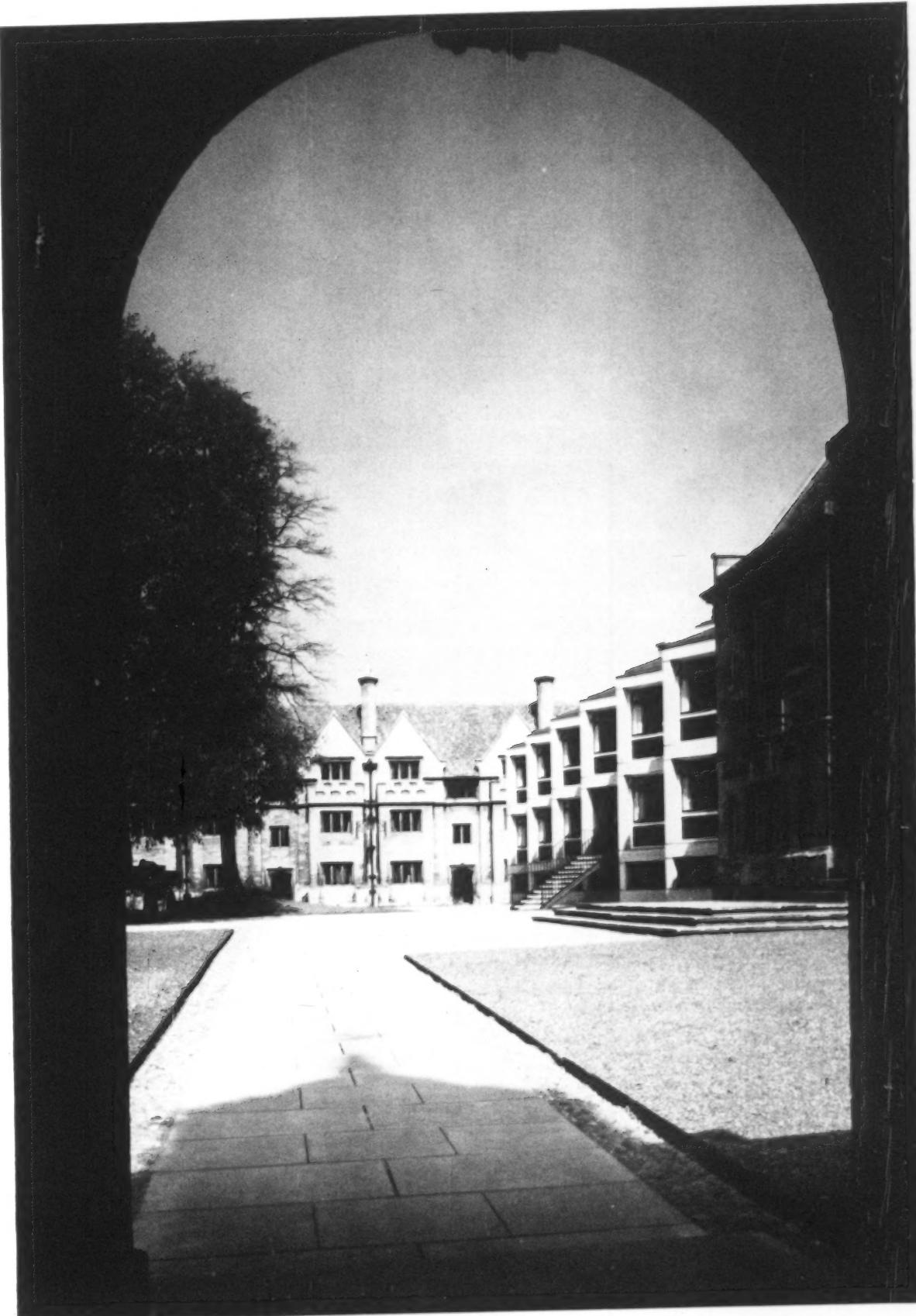
The detailed solution of these various problems is described on page 106, but two general points may be made here. Firstly, this kind of solution requires the architect to devise a style for each job, on the basis of the job itself and the surroundings into which it must be fitted. This might be expected to lead to a chaotic diversity of solutions but, and this is the second point to be made, something of a collegiate style can be seen emerging, apparently more on the basis of a functional approach than anything else. A resemblance may be noted between this work and David Roberts's for Clare College, Cambridge (AR, June 1959) as well as the similar saw-toothed elevation on the hostel block of Anders Tengbom's college at Lidingö (AR, June 1960) though the latter, since it is set in a grove of conifers, has not the same basis in an architectural environment.

The site plan on the right shows the whole North Quadrangle of the college, on to which the new undergraduate rooms face. The dates of the various college buildings surrounding the quadrangle are given round the edge. The numbers indicate the various floor surfaces.



UNDERGRADUATE ROOMS, OXFORD

ARCHITECTS | THE ARCHITECTS' CO-PARTNERSHIP



1. looking down the length of the North Quadrangle of St. John's College, through the gateway at the southern end. The new undergraduate rooms on the right of the photograph (see also the site plan opposite) back on to the President's garden

UNDERGRADUATE ROOMS, ST. JOHN'S COLLEGE, OXFORD

With ever more grandiose plans for the extension, reconstruction or creation of Britain's younger universities being announced month by month, Oxford and Cambridge as patrons and encouragers of architecture are becoming somewhat overshadowed. However, their efforts cannot be, by any means, written off—the amount and quality of modern building they are commissioning is, in fact, gradually increasing, and greater increases are to be anticipated.

It is in the nature of the works these universities require that the results shall be fragmentary and scattered—a group of lecture rooms here, extensions to a college there, rarely anything as large and self-complete as Churchill College, Cambridge. Furthermore, patronage is also scattered and diffused, with some work commissioned by the University at large, some by individual colleges, with the result that there is no overall picture of a unified and comprehensive architectural policy—not even the kind of diversity in unity underlying current developments in Birmingham.

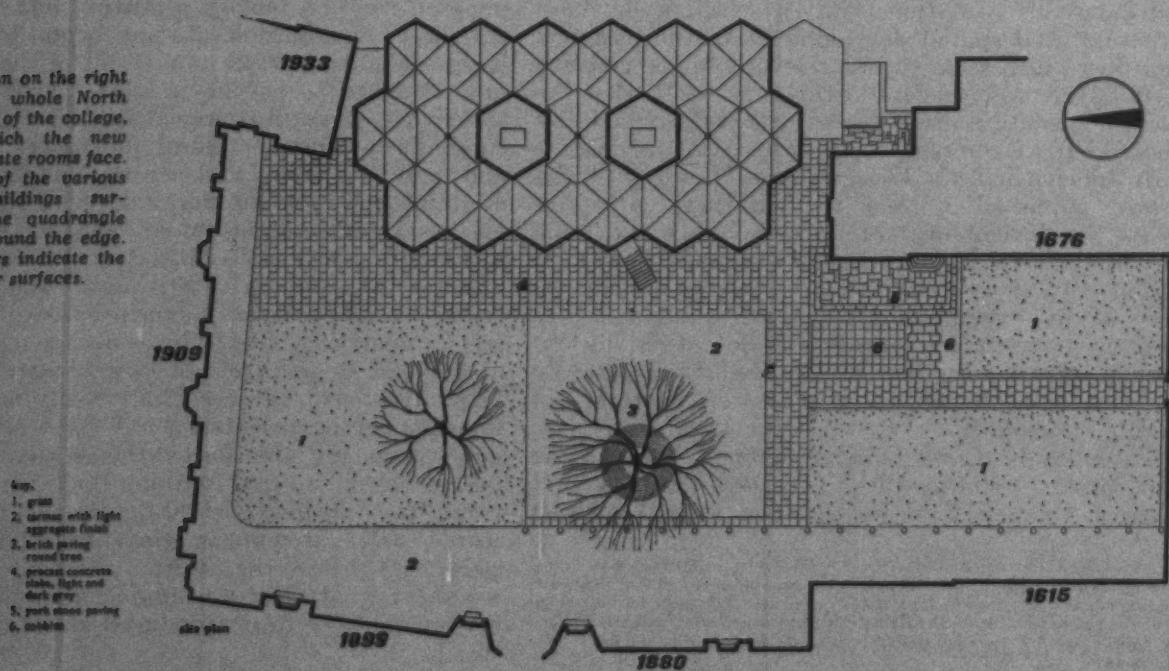
But, over and above these considerations, there is the difficult position of individual colleges to consider. In almost every case, any new work they commission must be fitted into an existing environment either of hallowed antiquity or, at least, carefully contrived Victorian 'character.' Two difficulties ensue: firstly, the commissioning of progressive designs tends to become psychologically difficult, particularly where any large part of college business is subject to a graduate vote, since the ties of sentimentality in absence that link scattered alumni to the college usually have an image of the antiquity or character of the place as their visual focus; secondly, when a progressive architectural office has been commissioned, there still remains the architectural problem of fitting the new work into the existing environment.

It now appears to be accepted that the surgical and forcible introduction of diagrammatically new work, complete in itself and regardless of its surroundings, cannot be tolerated, however much this may grieve determined Modernists, but this does not imply an unthinking relapse into stylistic Keeping in Keeping. The alternative is well seen in the new work for St. John's College, Oxford, which is described and illustrated here.

The first break with Keeping in Keeping was made, cautiously and in an idiom of studied neutrality, in the work undertaken for St. John's some five years ago by Booth and Ledeboer (AR, November 1957) in which the character of the place was interpreted, not in terms of style, but of materials, volumes and spaces. The new work by the Architects' Co-Partnership, which almost adjoins Booth and Ledeboer's, though its main elevation is on the opposite face of the range of buildings of which both form part, maintains the same considerations but adds another: the character of the Oxford skyline.

The detailed solution of these various problems is described on page 106, but two general points may be made here. Firstly, this kind of solution requires the architect to devise a style for each job, on the basis of the job itself and the surroundings into which it must be fitted. This might be expected to lead to a chaotic diversity of solutions but, and this is the second point to be made, something of a collegiate style can be seen emerging, apparently more on the basis of a functional approach than anything else. A resemblance may be noted between this work and David Roberts's for Clare College, Cambridge (AR, June 1959) as well as the similar saw-toothed elevation on the hostel block of Anders Tengbom's college at Lidingö (AR, June 1960) though the latter, since it is set in a grove of conifers, has not the same basis in an architectural environment.

The site plan on the right shows the whole North Quadrangle of the college, on to which the new undergraduate rooms face. The dates of the various college buildings surrounding the quadrangle are given round the edge. The numbers indicate the various floor surfaces.



UNDERGRADUATE ROOMS, OXFORD

ARCHITECTS | THE ARCHITECTS' CO-PARTNERSHIP

1. looking down the length of the North Quadrangle of St. John's College, through the gateway at the southern end. The new undergraduate rooms on the right of the photograph (see also the site plan opposite) back on to the President's garden.



2. looking through the archway by which the North Quadrangle of St. John's College is entered on its western side (see site plan, page 104) at the new undergraduate rooms on the far side of the variously paved or grassed central space.

3. close-up of the staircase which leads direct from the quadrangle to the entrance hall occupying one of the hexagonal units—see first-floor plan, page 108.

4 (facing page), the new building from within the quadrangle, on which is superimposed a diagram showing the geometrical arrangements of the hexagonal units.

UNDERGRADUATE ROOMS, OXFORD

The site, until recently occupied by stables and other outbuildings, lies between the north-east corner of the North Quadrangle of St. John's College and the President's garden. The Quadrangle, informal in shape, contains buildings ranging in date from 1615 to 1933. The problem was to design a new building which would bridge the gap caused by the demolition of the stables, and create a finished quadrangle that would be satisfactory in itself as well as link together visually the whole complex of buildings.

The new building provides 34 rooms, three of which, in the south-east corner of the ground floor, are designed as a Fellows' Set complete with its own bathroom and kitchen. The honeycomb plan form arose from a desire to provide a broken skyline to the building, which would continue the Oxford tradition of spires, gables and pinnacles without recourse to the application of ornament. The five central hexagons contain three staircases linked by two bathroom units, which are planned to provide internal communication from one staircase to another.

The section of the building is designed to allow approach to rooms at half-landing levels off the staircases, giving three full storeys on the east side and two-and-a-half on the west, the remaining half-storey providing a semi-basement bicycle shelter running the whole length of the west side of the building, approached by ramps at both ends.

The rooms, each about 200 sq. ft. in area, have been furnished to the specification of a small College committee with the help of the architects. Every room has built-in cupboards and a screened basin unit. Underfloor electric heating gives background warmth, which can be supplemented by portable electric fires. The three staircase towers are taken up higher than the others to allow clerestory lighting round all six sides. The bathroom units are top lit and artificially ventilated.

The building is constructed with load-bearing Portland stone-faced walls and in-situ concrete floor slabs. The external walls rise from a granite plinth. The roofs are Cornish slate, with a slate coping masking a secret gutter designed so that all rain-water pipes are taken down through the central part of the building. The undersides of the rooms immediately under the roofs are lined with varnished Parana pine matchboarding. The double-glazed, horizontal sliding windows are aluminium framed and painted black. They are set in white painted hardwood sub-frames.

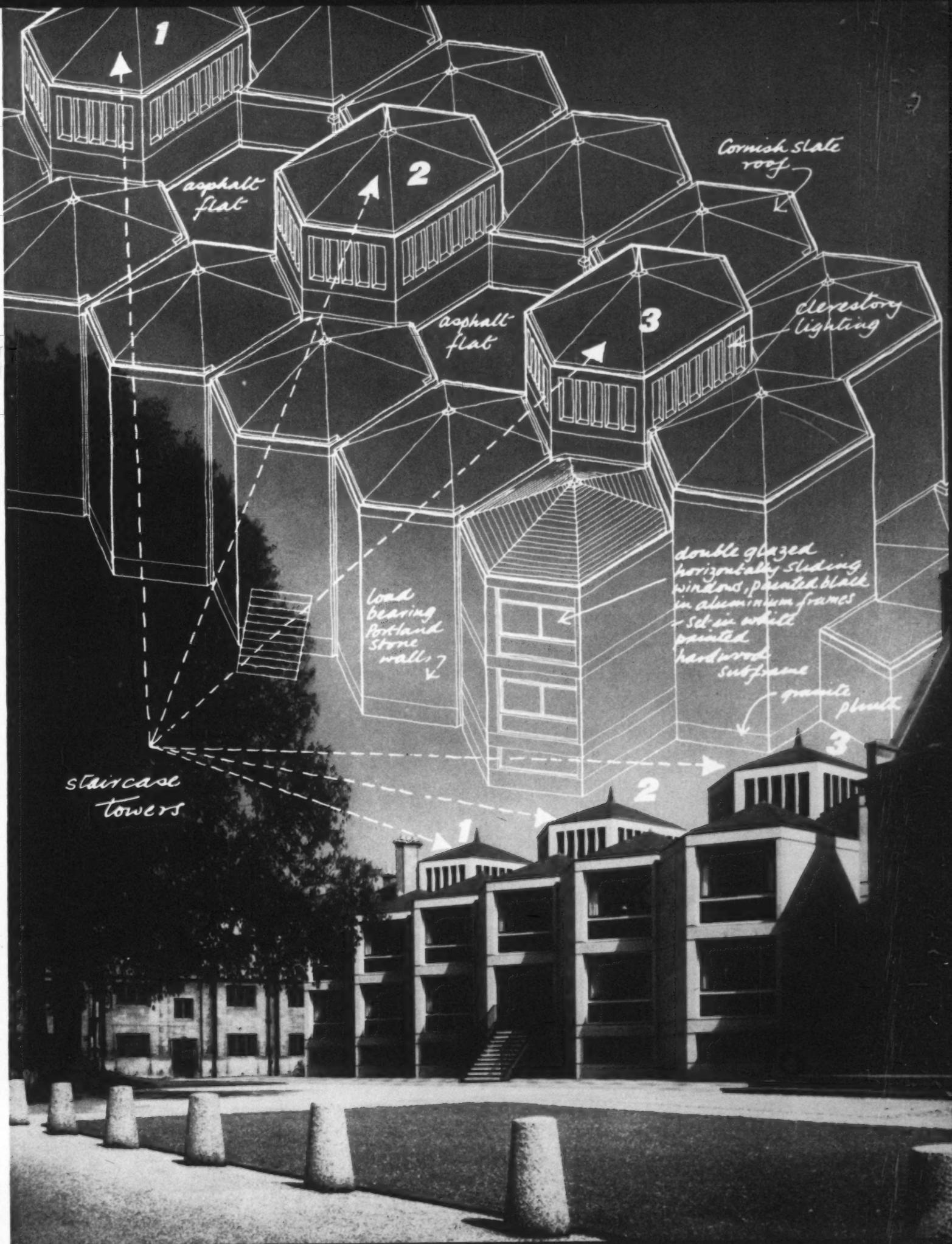


4

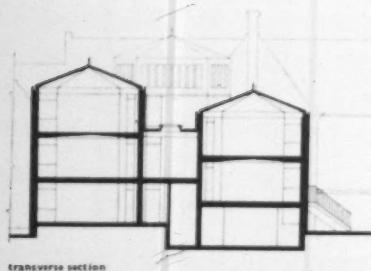


2

3



UNDERGRADUATE ROOMS, OXFORD



transverse section

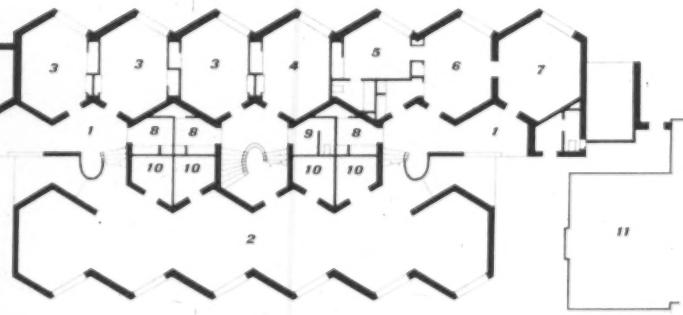


5

key

- 1. entrance
- 2. bicycle store
- 3. undergraduate bed-sitting rooms
- 4. tutor's room
- 5. fellow's bedroom
- 6. fellow's dining-room
- 7. fellow's sitting-room
- 8. scout
- 9. lavatory
- 10. store

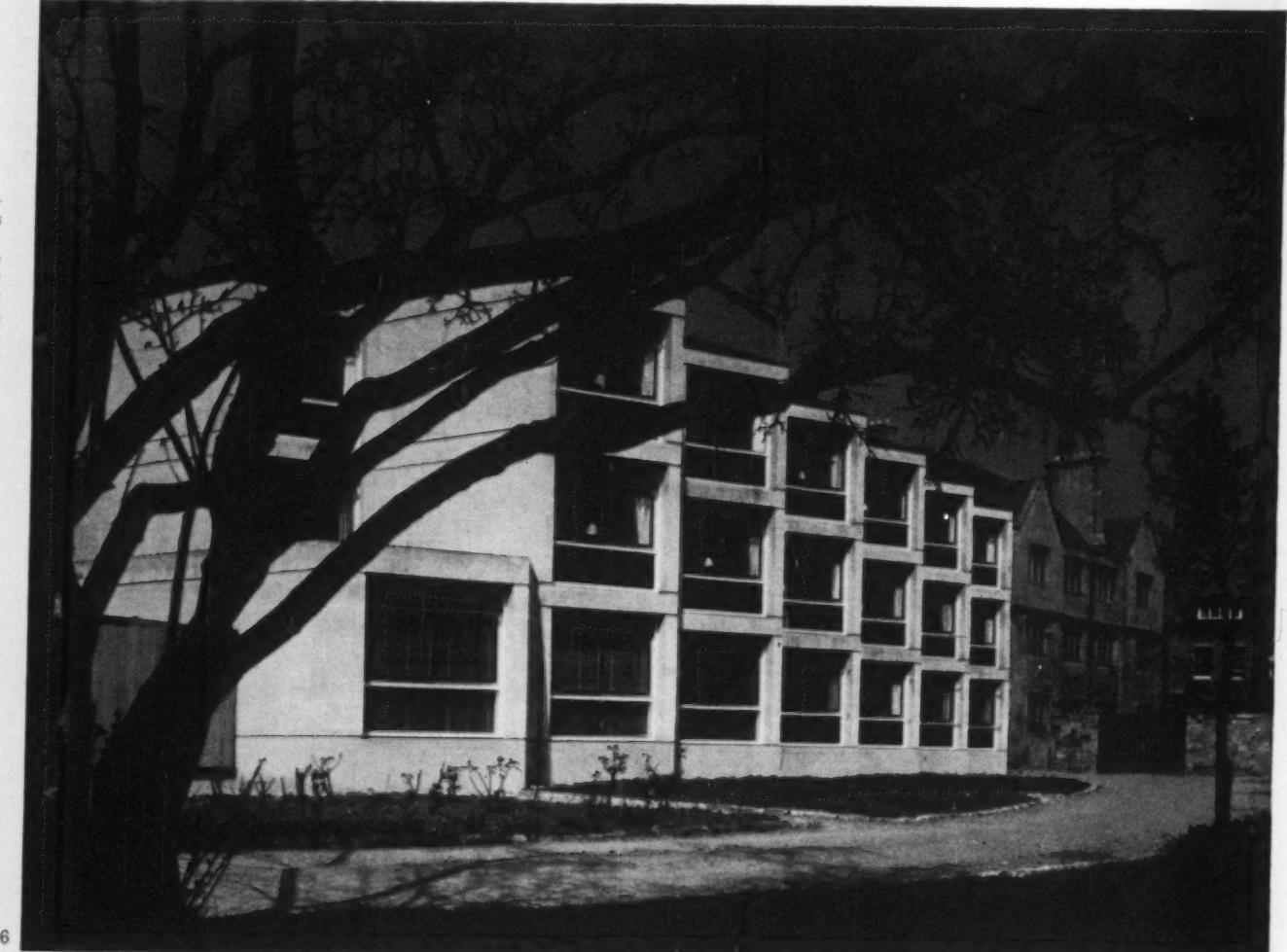
first floor plan (second floor similar)



40 20 0 10

ground floor plan

5, looking north-eastwards across the quadrangle.
 6, the opposite side of the new building, facing the President's garden. The three lower windows on the left are those of the suite of Fellow's rooms; the remainder are those of the undergraduate bed-sitting rooms.



6



7



8



9



10

7, top flight of one of the three staircases in the central row of hexagons, showing clerestory lighting from the turret that rises above the roof—see section opposite and diagram on page 107.

8, the intermediate level on the same staircase.

9, interior of one of the upper range of undergraduate bed-sitting rooms, showing the ceiling lined with pine match-boarding. 10, detail of the wash-basin built in behind the panelling of each room.

BIRMINGHAM / LIVERPOOL / MANCHESTER



These photographs sum up three sides of city planning. Above, the air view of Manchester shows the total problem which the city planner has to deal with. Yet all his efforts are wasted if he fails to provide a combination of the expressive and the humane to satisfy the real perennial needs of the man in the street. Below left, Victorian polyphony in Birmingham, the expressive city at a level which we have not even attempted in this country. Below right, the indestructible urge for people to congregate, say things, be living parts of a living city, even if it is only on a shabby piece of waste ground: Manchester's Speakers' Corner at the junction of Deansgate and St. Mary's Gate.



BIRMINGHAM : LIVERPOOL : MANCHESTER

A city is a living thing made up of living things, a personality with a character which is the amalgam of all the different and mutually contradictory bits of topography and of every inhabitant in it. This is all trite, and a truism, yet unless every councillor and official carries that sense of his city inside him the city will die—and it must be a sense of the reality, not just the surface trappings that represent it, given high flown names like 'Civic Centre,' 'Shopping Precinct,' 'Cultural Area.' Every civic alteration has got to make expressive, emotional sense and humane down-to-earth functional sense. Expression without humanity means the imposed diagrams of Karlsruhe and New Delhi; humanity without expression is the friendly but flat effect of Zürich or Frankfurt. Cities without either end up like many of the fearful anonymous aggregates of the United States—Albuquerque, Cleveland, El Paso. And somewhere in the middle, with a bit of everything and not quite enough of anything, are Birmingham, Liverpool and Manchester.

Our provincial cities have patterns and problems which they share more with America than with Western Europe. Because our Industrial Revolution was so rapid and so wholehearted, the old pattern was thrown overboard in a way that was not paralleled in France or Germany. The eighteenth-century pattern was unequivocal and long-established: London, Bristol, Norwich, York. By 1850 only London remained, and its partners were the *nouveaux riches* which are the subject of this article. They had centres of varying quality, but they all shared a machine-made outer ring of bricks and mortar: mean houses and small factories at Birmingham, elegant but now hopelessly overcrowded houses at Liverpool, implacable warehouses and offices at Manchester. The old cheerful piecemeal pattern—which will exist in London until the last mews and alley disappears under Neo-Georgian flats—had been broken: the city, for the first time, had become dehumanized. Inside the ring (whether the ring was made up of machines or mortals is almost irrelevant: both were treated alike, one became economic pressure and the other became political pressure) the nineteenth century did what it could—but to cities which had already gone suburban. Corporation Street in Birmingham or Piccadilly in Manchester were never intended to be lived in: the continuity of centre and periphery was broken up. Today flats in the centre of London are fairly numerous

and very expensive; i.e. a lot of people want them: in the three provincial cities they hardly exist—the demand is there, but has never been met. Each has a centre surrounded by a ring of blight, the exact pattern of Chicago and all other nineteenth-century American cities. Our first experiment in trying to equate material progress with true progress has blown up in our faces—a metaphorical explosion assisted in varying degrees by the real explosions of 1940-41.

So the nineteenth century grafted symbolic centres—expression without humanity—on jumped-up country towns which until then had been all humanity without expression. The varying consequences are described in detail later: what they have led up to in each case is a collection of offices and public buildings uninhabited at night, which is really an expression of the city as it appears to the ratepayer or the council tenant. This I can only call, without any loading of words, the 'local government city': the intricate caste-ruled framework, almost autonomous yet dangerously susceptible to political changes of fortune. It may be an amicable parliament of friends or it may be a nest of vipers: but in both cases, from its very nature, it is likely to be material and impersonal—which may or may not mean inhumane. This has been long-winded. But what I meant to say by it is that the very things which are essential to a city if it is to become more than just so many

bodies fairly close together are those things which are least likely to come naturally out of the present system. Hence these things need to be emphasized and underlined.

To make a city expressive is in many ways the easier part of the problem: it is that of giving the city visual identity, a shape which the man in the street can apprehend (and I can't say too strongly that this apprehension need not and probably cannot be either articulate or conscious). The man in the street is moving, hence the shape should comprise a sequence of spaces; it should make functional sense, and it should somewhere express civic dignity formally and grandly without disintegrating into an album of grandiose vistas. All this is, in a word, townscape, which is the REVIEW's exact sphere of activity, which can be demonstrated by photographs and drawings and which I have tried to outline, in a very circumscribed way, later in this article.

But very few people are really trying to find out what a city is like to be in, not only in terms of their own life but for every kind of person who uses it—the char, the office typist, the warehouse clerk, the barmaid. They all have different patterns, and thank goodness; but are these patterns being given any conscious thought? Does any planner in Birmingham or Liverpool or Manchester know how the corporation dustmen live, what they enjoy in the city centre and what they abhor? The problem is at least as important as

plot ratio, daylight angles and sight lines. To take one related example: most Cockney families like to live in the kitchen. The architect's job is not to ask why, nor to persuade Cockneys to live like young married architects, but to build big kitchens in the specific proportion that they are needed, as far as can be assessed. But do they?—not on your life. And the same pattern runs through every bit of designing for metropolitan living, private and public, so that in despair one almost welcomes piecemeal redevelopment because at least humanity may have some accidental chance of breaking through.

The crux of the thing in one word, is choice. The city centre must provide every kind of environment, as close together as possible—where possible gaining in character through the counterpoint of being seen next to something different. The big streets need the pedestrian network: the formal view needs the shop on the corner and the pub round the corner. Every scheme needs a few flats let at deliberately low rents with the subsidy money coming back to the city as a whole in increased night-time vitality and health, decreased rush-hour traffic. Every big scheme must contain a mixture of uses unless the city is to become a strictly zoned collection of mausolea: the zoning should occur organically, by character or pattern, rather than literally, by exact interpretation of categories of use. In short, every comprehensive development area and most large buildings besides must become miniature Barbicans. This is something that city planners can initiate, without too much trouble; the development companies will be quick enough to see the advantages once one or two of the units are working—units, incidentally, which must contain much more old property than present-day thinking allows. A higgledy-piggledy site with some structurally sound existing buildings is a godsend in human and emotional terms: we need a complete reversal of thinking from the present attitude which would see such an area as so much bomb-damaged rubble.

Choice, or multiple use, is one key to a happy city; humanity, or care with the details is perhaps the other, which brings the issue fair and square back to the architects- and engineers-in-charge. *Homo Sapiens* on his uneasy journeys through metropolis needs a continuous series of pointers which relate in a comfortable friendly way—the opposite of Route 11—overhanging signs, bollards, benches, trees, warm textures near at hand. Most modern architecture so far has not even the faintest inkling of how to provide them: ironically, Sir Albert Richardson's weird Financial Times building is more visual and textural for the person actually walking around the ground floor than anything else nearby. Clutter is bad when it obscures

a deliberate architectural effect—the lamp standards in the market place, or the hoardings on the walls of the Georgian house—but in other places and particularly in some city streets it may be essential. It is the *genius loci* again, and there is no short cut to deciding for each place and each part of a place on its own merits; and in terms of the life it wants to lead, not the life the architect or planner would wish to impose on it.

Architecture has crept into this article stern-first—deliberately, in the present circumstances: too many people believe that an environment made up of adjoining comprehensive redevelopment areas done in the best LCC manner would make a marvellous city. Now architecture is here, the tale had better be told—tolled, more accurately. What has happened in Birmingham, Manchester and Liverpool can be seen from the photographs; the sum so far of fifteen years of rebuilding in the three largest English provincial cities is just two decent big buildings—Ringway Centre in Birmingham and Albert Bridge House in Manchester. The architects of the others have a lot to answer for. When everything else is said and all the difficulties and stringencies are accounted for this is still nothing else but sheer professional failure. About half comes from old provincial firms secure in their contracts, complacent in their outlook, complaisant in their visual standards and their architectural conscience: the rest seems to be bread-and-butter work for the huge London firms who do not give them the attention that a similar sized job in the capital might get. It is a far cry from the standards of a hundred and fifty—or even fifty—years ago. The average big Edwardian Baroque building was as good as it could be, according to its own lights: who could say that of most of the jobs on the next couple of pages?

The outlook, luckily, is not quite as gloomy as it has been. Albert Bridge House was an exception—built by the Ministry of Works, who, not having a commercial client at their heels, could and did spend the little extra time and care and affection that makes all the difference in buildings like this. Ringway Centre, however, was built by a Brummagem architect (J. A. Roberts) working with a commercial developer, and hence bedevilled by all the rush and flurry that the other firms seem to have found too much for them. If half a dozen architects can do as well, and shame the others into respectable imitation, and if the city planners can guide the city pattern into being 'expressive and humane,' then our three provincial cities may become places to enjoy in their own right, instead of being visited on sufferance, with the visitor escaping overnight into such very expressive and humane neighbours as Warwick, Lichfield and Chester.

The rest of the article is in three parts. First, recently completed buildings; second, projects and buildings-in-progress with a look at the official proposals for the future pattern of the city centre. Finally, a suggestion of the kind of way in which the city centres can become expressive, not just collections of utilities. City centres have been taken to be the areas inside the ring roads, give or take a few yards.

1 rebuilding, 1950–60

BIRMINGHAM The mixture very much as expected: anonymous slabs which have discarded pediments and pilasters and thus placed themselves in the awkward moment-of-truth position of having to depend on the architectural quality of the detail. 1 and 6—the last by a London firm which ought to know better—are depressing designs which could be anywhere. 3 is certainly an attempt to introduce individuality into an ordinary urban office building—Severn House, New Street, by Cotton Ballard & Blow. It is ugly but it has got personality, something that the passer by can look up and recognise as he goes by, which is more than can be said for the same firm's later Big Top, 4, which is an astonishing mélange of unrelated clichés. 2 and 5 are 'clean and decent,' good enough if there is surrounding townscape against which their lack of individual character falls into place. Unfortunately, in these cases there isn't. That 5 is an Insurance Company's office designed by a local firm (J. B. Surman & Partners) is quite an encouraging sign.

The one really hopeful building in Birmingham is Ringway Centre, 7 and 8, on the first portion of the Ring Road to be completed, immediately south of the Town Hall and New Street station. It incorporates a bridge over Hurst Street which has been combined with a pedestrian subway, including shops, whose levels have been carefully managed so that it is easier to use it than to try to cross the street. This kind of hidden persuasion is essential if the new pattern is to work properly: if *Homo Sapiens* sees an easier way than the authorised one, he will use it, and quite right too. The detailing, especially on the 'bridge,' 7, inspires a lot of respect—for example the ground-floor piers and the delicate rhythmic thickening of the concrete beams; the total effect, easily apparent here, is to create a wall with gates in, something whose implication is explored a bit further on page 115. It is very nice to be able to say that the architect, J. A. Roberts, is young and has a local practice.

LIVERPOOL Liverpool had much more central area bomb damage than either of the other cities. Hence there are a lot of new buildings, and they just about touch rock bottom. At this level it doesn't matter much whether they are reactionary, 9–11, not quite anything, 12 and 13, or kind of contemporary, 14 and 15. Littlewoods, 9, is certainly worth some kind of prize or other. Ignoring 9–13 as being beyond redemption, what is most wrong with 14 and 15 is the complete lack of inner consistence and feeling for modern design as a coherent language. It looks as though every assistant in the office added his separate clichés in isolation (there are, of course, only too many buildings in London to which this would apply also). The only building I saw in the centre which had this basic decency was the modest but honest Seamen's Mission, 16, by Willink and Dod. And this, alas in the city of St. George's Hall, and of the former Goree Piazza and Custom House!

MANCHESTER Only one or two sites in central Manchester were damaged by the blitz; hence the rebuilding came later and was less thorough-going than in Liverpool. Hence, also, all the buildings are more or less modern, though this means depressingly little in terms of quality. Peter House, 17, is graceless and bulky, and so is the first building, 18, in the Market Place Comprehensive Development Area: splayed around a roundabout, lumbering in its elevations, insensitive in its use of materials—not a happy augury for the future. 17 was designed in London, 18 in Manchester, which only goes to show that architectural mediocrity 'at this time,' as American pilots say, is nation-wide. Small buildings jog along, 19, and in fact make some case for piecemeal redevelopment in that a little mediocrity will be lost much more quickly than a lot. 20 is the AA Headquarters, architects Stephenson and Young of Manchester, in an almost unphotographable situation facing north-east; it is a far better building than this shot indicates. And it leads on to better things . . .

[continued on page 114]

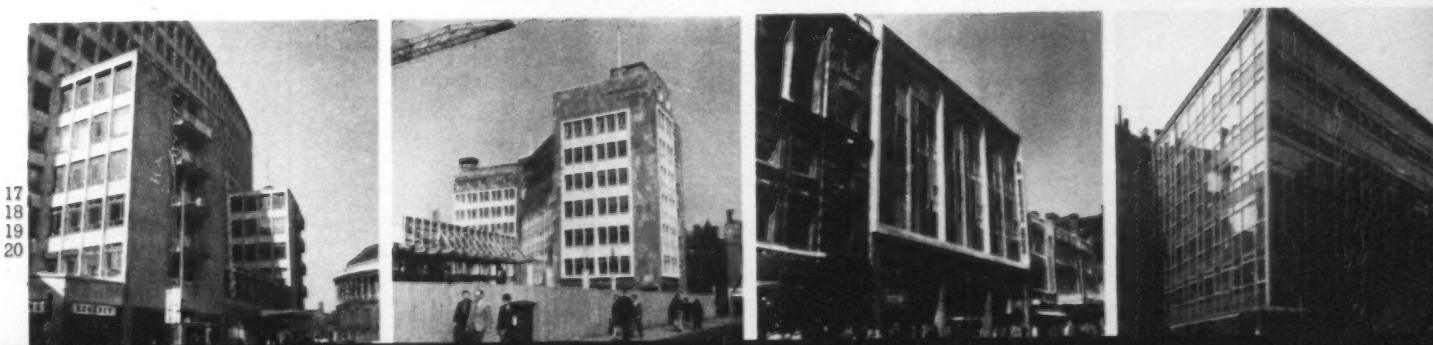
Birmingham rebuilding

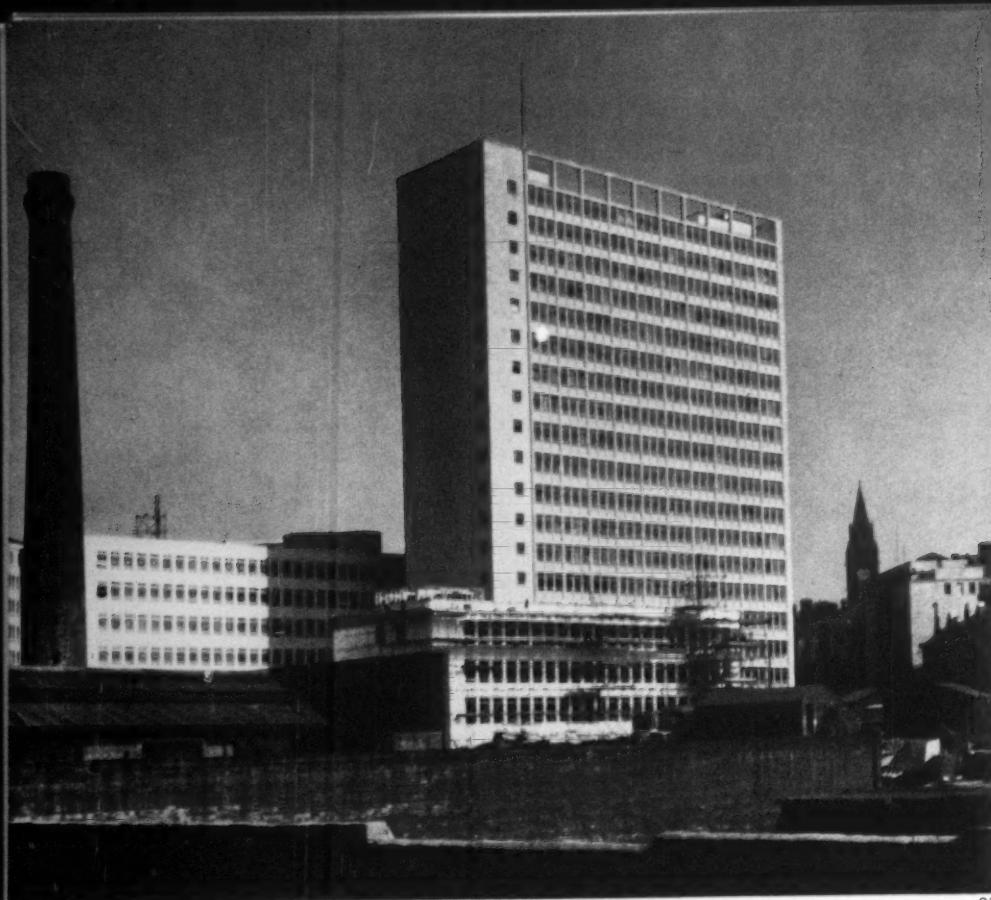


Liverpool rebuilding



Manchester rebuilding





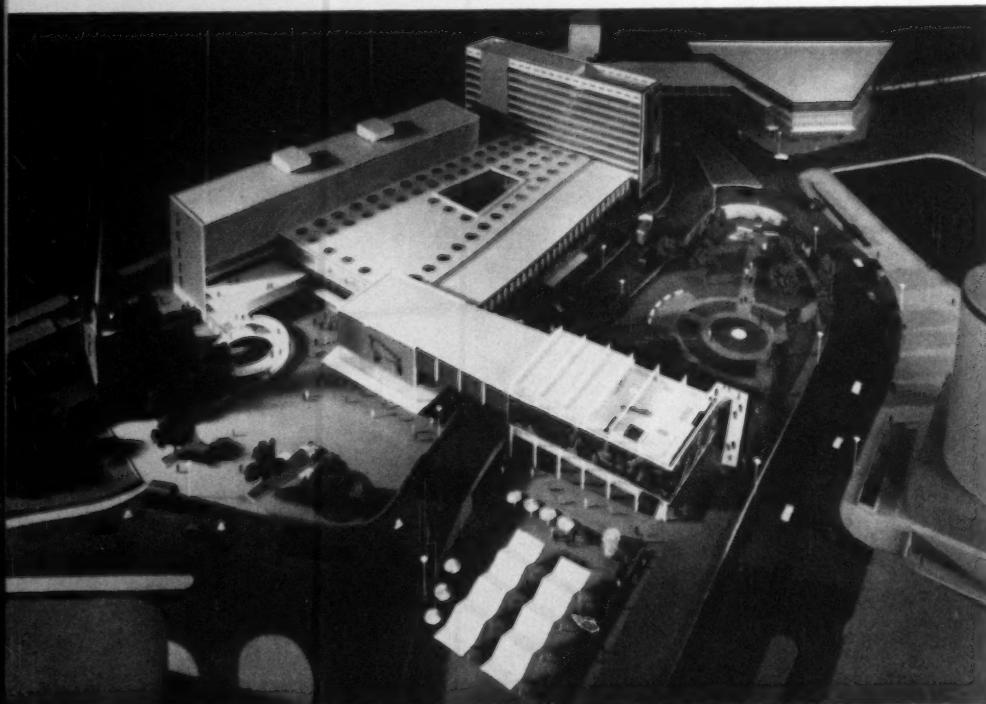
21



22

REBUILDING MANCHESTER: *continued*

... in the shape of Albert Bridge House, by the Ministry of Works; 21 and 22 show the effect of just one large well designed building in the townscape. Why are there only two—this and Ringway Centre—in ten years' worth of architects' fees in three cities?



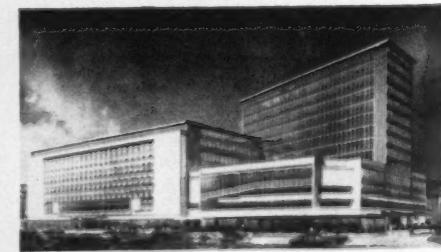
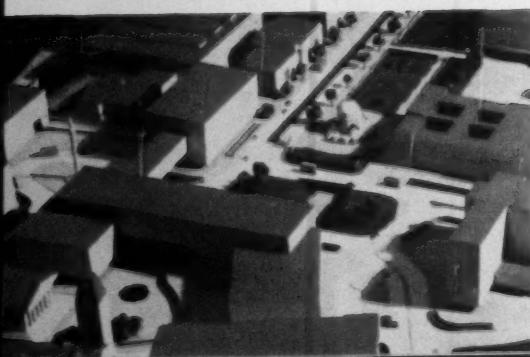
1

2 projects

BIRMINGHAM All three cities have ring road proposals. Birmingham is farthest ahead, with the southern-most part nearly complete and the Bull Ring scheme started. The line selected respects Birmingham's shape except at two points: the Bull Ring to the SE, and the Civic Centre to the west. The Bull Ring was a hilly triangular market place. It now has the Ring Road slicing right through it; actually the scheme is imaginative and the end result could be more effective than the old pattern. I know we should be prepared to do this, but I simply haven't enough faith in our architects and planners to recommend it as a general principle. Most of the good things in the present scheme, 1, seem to be due to an earlier scheme, again by J. A. Roberts.

The Civic Centre is an ambitious long-term proposal (replacing an appalling Beaux Arts layout of which the present limp Neoclassicisms represent about one-tenth) for completing the centre piecemeal, designed in the City Architect's office, 2. It shows a lot of promise—the essentials are really those of the scheme praised in AR, February, 1951—and it overcomes the fact that the ring road slices through the area by bridging it wholesale. Best of all, it really uses the forgotten canal basin off Gas Street. Two things only worry me, one big and one small. The big one is this old problem of multiple use—at its simplest, this will be a very big area with no pubs in it—and there is no sign that anyone in the country is really prepared to examine what a Civic Centre ought to contain (this one has three separate public halls, for example—but where do you go before, after and in the interval?). The small one is that the present enclosure of Ratcliff Place behind the Town Hall is very pleasant—it is a Victorian masterpiece, really—and it would be a pity to lose it. Could E. M. Barry's library be kept as a podium to a modern building?

In the rest of the centre proposed rebuilding is imposing at a quick look or in an Academy sketch, disastrously ham-handed as it appears in the concrete. 3, Rackham's new building by T. P. Bennett & Son, is typical. One long-term road widening forecast in the Ring Road plan would be disastrous—the removal of the south side of Colmore Row and the opening-out of the area between St. Philip's churchyard and



2

3

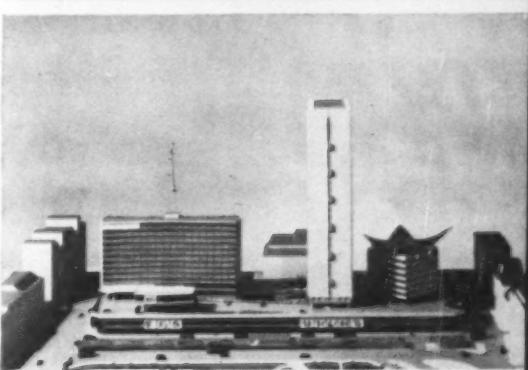
the Town Hall as open space—neither building is big enough to stand exposure on this scale, and one of the best parts of central Birmingham, Waterloo Street, would be sacrificed to no real purpose.

LIVERPOOL A ring road is proposed, and a short section near the Pier Head has been built, neither better nor worse than most ring roads. The main schemes projected by the City Architect are a reconstruction of the Pier Head and rationalisation of rather a mean lot of structures at the foot of the Liver building, where the ferries come over from the Wirral, and the Civic Centre. The details of this are not fixed, but the site is, in South Castle Street on the axis of Wood's Town Hall, in an area which is largely bomb-damaged and could well do with more people. In fact, if the authorities could be persuaded, there is a splendid chance for a Barbican here—flats, shops, and Civic Centre. One radical suggestion made recently is that Bold Street, running S.E. from Central Station, should be roofed over, as a kind of monster arcade. This technique could add a complete new dimension to city centres—another element in the infinite choice which a city ought to offer.

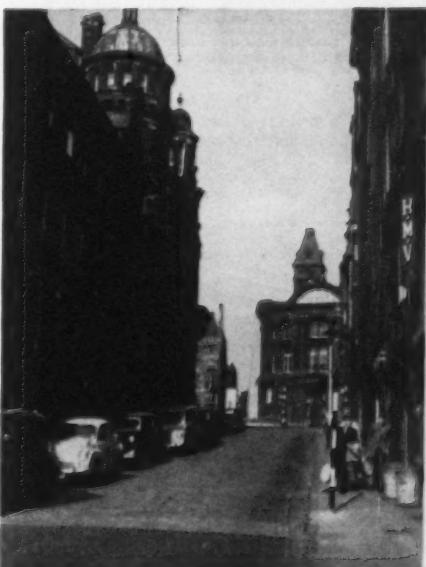
MANCHESTER Again, a ring road is the centre-point of new planning. The route selected separates city and cathedral, but this could probably be overcome by using change of level and (preferably) sinking the road under a pedestrian square, so that the walkers' unity remains unimpaired. Inside the ring road no big street alterations are proposed, and this I

think is a sine qua non of city centre planning. If a big ring road is built then the centre can be quite happily left to carry on at its own scale. The biggest area of new building is around Albert Bridge House on the W. side of the city, and here bomb damage has been used to convert a battered industrial area into an extension of the centre. This is a good way to break the nineteenth-century strangler's grip which is a very real thing in Manchester: if Salford, which starts on the other side of the Irwell, could be persuaded to co-operate the two centres might be linked and humanised and eight hundred years of mutual dislike might be ended. The new buildings here include Law Courts, 4, now half completed, and the eventual intention is to link them to Albert Square by a short formal axis which has got itself known as the Processional Way. This would be a good thing, because Manchester has no formal civic gesture—it is still in its pattern very much a country town grown up—and this one would be about the right length and in the right place. The Law Courts, however, might be too low to fill the view adequately, and the processional way itself would be slightly convex and slightly down hill, which might accentuate this.

The biggest private development inside the Ring Road is the Piccadilly Centre, 5, by Covell and Matthews, which is the only one of the big commercial super block schemes in the three cities to hold out some hopes of being a good building—good in its architectural details and good to walk around, in a fuzzily humanistic sense which is just as important. Every city needs a few of these schemes, and they should be as good as they can be—the Big Top and Rackhams in Birmingham are really deplorable efforts for such big buildings on such important sites.



1



2

3 the expressive city

All three city centres are being defined by their Ring Roads as precisely as though they had medieval walls: and the more traffic there is, the stronger is going to be the contrast between inside and outside. This is a good thing, except where proper parts of the centre have been left outside the ring road (Birmingham: St. Martins Church; Liverpool: Central Station; Manchester: the Cathedral) and this may be remedied by having pedestrian 'break-out' at these points to keep the continuity.

Inside the ring, there is a splendid chance for each centre to become expressive, to catch hold of the particular differences in site and pattern and make them visibly manifest, that

will give every citizen, however obscurely, a compelling sense of identity. This is every bit as much the planner's job as seeing that the traffic flows easily: in fact a sense of his own city should be the primary qualification for the job. These three little studies give, terribly briefly, some idea of the sort of thing planners ought to be always on the alert for—hidden arteries, patterns running through a place.

BIRMINGHAM Birmingham is a hill town, though it has been difficult to realise it because the crimson red flue of factories and houses is so uniform that it takes you into New Street or Colmore Row before you know it. However, the ring road, by running around the bottom of the hill, is reasserting the hilliness. Already, around the Big Top, gaunt backs and sides are towering up above the new road, 1. It needs

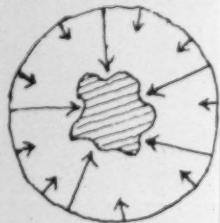


little more to accentuate views into the Victorian Centre, such as 2, or to control views and angles in the rebuilding, so that this sense is enhanced. At the same time Birmingham is very unpleasant to walk around, for the simplest reason—the pavements are too narrow. 3 is a typical scene anywhere around the main

3

streets on a Saturday: outside Lewis's there are genuine pedestrian traffic jams, controlled by policemen, the only ones I have ever seen. Every bit of pedestrian space is used to the utmost: 4 is the back of the Town Hall; 5 is St. Philip's Churchyard; 6 is the old Bull Ring market—I hope the new one is as good. So here is a town of pedestrians: why not give it back to them? With the ring road built, car parking could be provided against the hill slopes, with road spurs only penetrating into the centre, for essential traffic, blocked at the core by a pedestrian area which would include the main shopping streets and the pedestrian artery of Birmingham, the walk between New Street and Snow Hill Stations, through St. Philip's Churchyard.

The pattern shown diagrammatically below could be begun at once by taking in the streets around the churchyard and Temple Street, which leads to New Street Station, and work outwards from there. Buses, which are in-and-out-again, not through as in London, could use the spurs; with the central area less than a mile across nobody need walk far to their cars. Much of the proposed road work inside the ring road would become unnecessary, and the central core which would have a commonsense shoppers' unity has, on its hill-top, a visual unity also.



→ CAR PARKS
→ ROADSPURS
PEDESTRIAN AREA



4



5



6

LIVERPOOL This is not a developed idea at all, just an observation—that the most impressive part of Liverpool is what you see when you're out of it, 7, the splendid skyline at the Pier Head, reinforced—much more vividly to the eye than to the camera—by St. Nicholas Church on the left, the Cathedral on the right. More than anywhere else in Britain, Liverpool's beauty is above pavement level, with the interplay of the eloquent domes and towers left to us by the eclectic age, 8 and 9. It is not built on one big hill, but on several little ones, with the streets joining them all double-curved (i.e., concave and convex hills) so that the interplay becomes richer than ever. Something is always looking over your shoulder—an extreme and splendid case occurs with one corner of St. George's Hall, seen from Queen Square, 10. So the problem becomes what kind of shape to put on the tops of buildings—preferably not the flat-topped banality of Thorn House in London or of Liverpool's new semi-modern buildings, unless it is needed for counterpoint's sake. The new Civic Centre, which will appear behind the Liver Building in 7, has a big responsibility here. And that the tops of buildings are important even where they are below the skyline is shown in 8, where the Pier Head buildings in the foreground can transform the scene if they are allowed to be a deliberate part of the bigger shapes up above—either as a complement or a counterpoint.

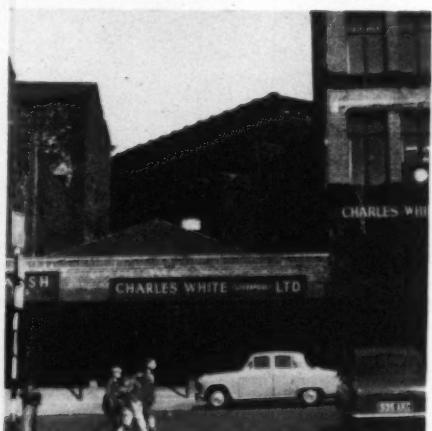
7



8

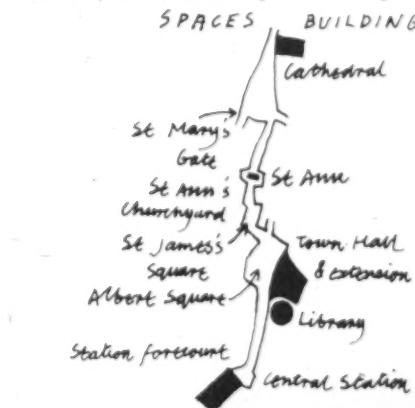


9



10

MANCHESTER Manchester has escaped the horrors of bad formal planning, but this has left it without a sense of anywhere that is the 'centre of the centre.' An axis is needed, but whereas in the old days a 300-ft. swathe would have been cut right through the town, today we realise that something subtler, more humane and more exciting is required. So this is like Klee, a 'walk with a line.' It has some functional sense of its own, in that it links the Central and Exchange Stations; it joins up the Town Hall, Cathedral and St. Ann's Church, and it could with a little effort be all-pedestrian, once the ring road is completed. A deliberately publicized pedestrian 'line of life,' with everything along it designed to make shopping, staring and sitting more enjoyable, might be a very sound thing economically, as well as giving pleasure to those people who pursue what the TCPA once called, splendidly, the lust of the detached eye. So here goes . . .



11

... starting in front of Central Station, 11, where a view down Mount Street catches the eye as though it were part of a vast course in solid geometry, spinning out a theorem as elemental (though less nobly detailed) as the famous sequence of St. Mary's and the Radcliffe Camera in Oxford: spire, gable end, cylinder. The spire is Waterhouse, both gable end and cylinder are due to Vincent Harris, no small achievement of relationship. This is the civic hub of Manchester, and after a glance right, 12 . . .



12

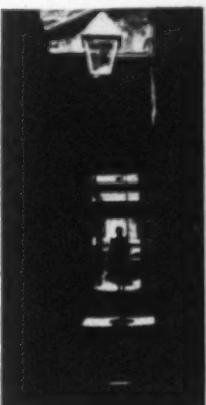
... at the by-products which come naturally when a few relationships have been built up, Mount Street becomes Albert Square, 13 . . .

15



13

... slips across two streets with a bewildering kaleidoscope of light and dark effects, private and public space, 16 and 17 . . .



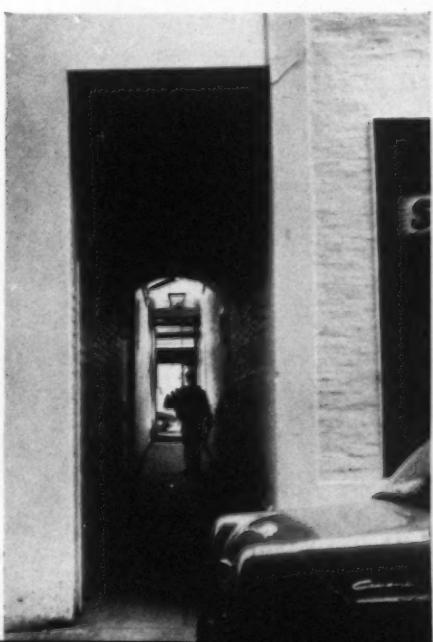
... and ends in one of the noblest intimate 18, 17 views in England, the grand early eighteenth-century pedimented porch of St. Ann's, 18 and 19 . . .

18



14

... much smaller, little more than a short wide street, the perfect foil to the grand civics we have had so far. At the end of the square an alley opens out, 15 . . .

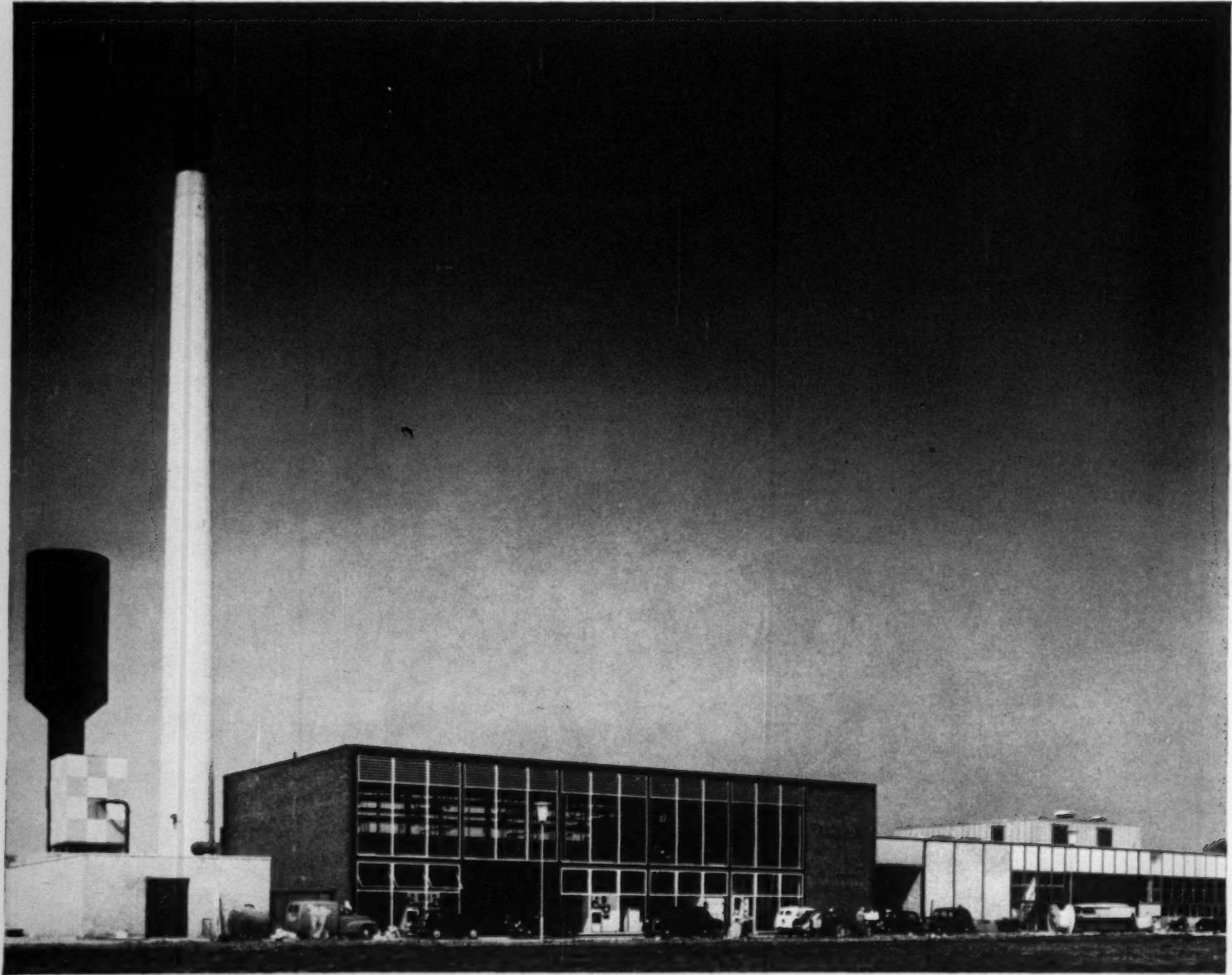


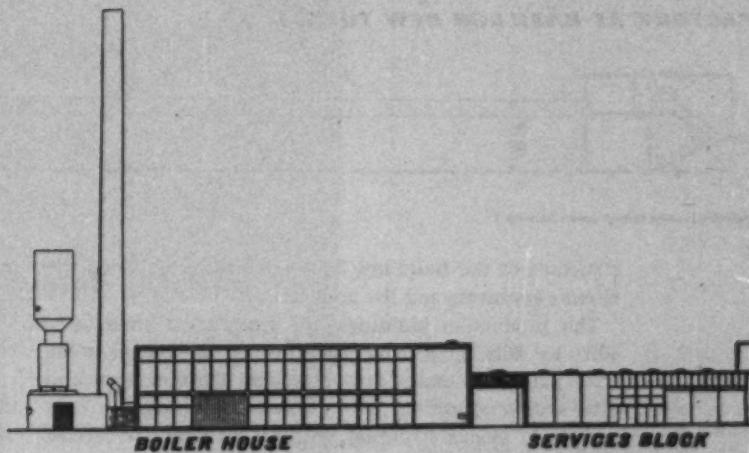
Even then the play is not ended, for around the corner is St. Ann's Square, and the heart of shoppers' Manchester. Beyond again, though visual interest falls away—and could so easily be re-created—is the tower of the Cathedral. 19

FACTORY AT BASILDON NEW TOWN

ARCHITECT **ANTHONY B. DAVIES, Chief Architect-Planner, Basildon Development Corporation**

1, the boiler house (centre) and the services block (right) from the east. On the left is the steel water tower.

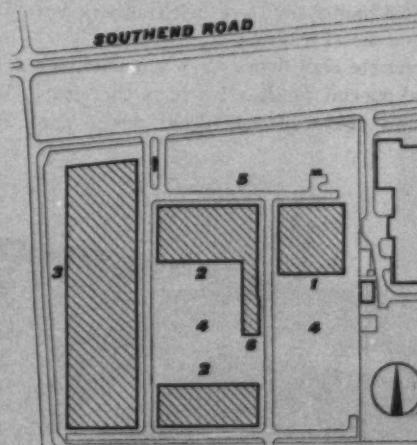




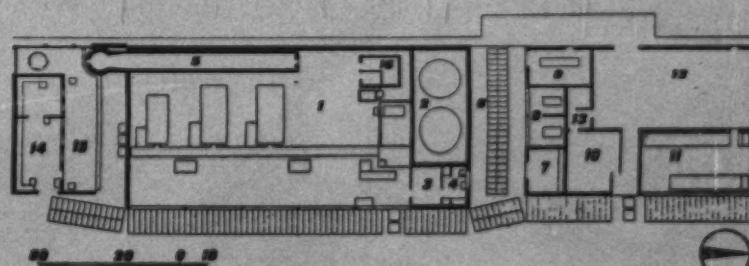
Most of the industrial architecture of the New Towns has not, so far, been more than competent and efficient, and the Ilford factory at Basildon is therefore the more welcome for having got off this level of the decent minimum to produce something with stronger claims to be considered as architecture. Nevertheless, an improvement in architectural quality is still not enough to bring the industrial areas of the New Towns up to the standard of the residential architecture there. Their planning rises little above the quality of pre-war trading estates, as if it were sufficient to group the factories into a kind of industrial Siberia, out of sight and mind, where standards applicable elsewhere could be relaxed. Clearly, planning for unspecified and variable industrial use has its difficulties, but it should not be impossible to raise the present uninspired planning of the industrial areas to a higher level, worthy of this and the few other well-designed factory buildings.

This factory, for Ilford Ltd., in the Nevendon industrial area of the new town, is designed to concentrate the company's production units, at present operating in widely distributed works, in one place. Three parallel production buildings and a boiler house have been laid out on the 19-acre site, with vehicular access roads and parking lay-bys between. Only one of the buildings has so far been constructed to its ultimate size (see site-plan) and space has also been left for six-storey office and canteen block at right-angles to the production buildings.

The planning was determined by a number of operational requirements: that floor areas should be uninterrupted in order to allow flexibility in use and freedom of plant layout; that floor and road levels should be uniform to facilitate fork-lift trucking throughout the site; that good natural day lighting should be available, except in certain areas where photographic processes require all natural light to be excluded, but that light and dark areas should be interchangeable as required; that services should be available at all points in the buildings; that the structure and the services should give as few dust-holding surfaces as possible. Cloakroom and office accommodation is planned so as not to interfere with the main flow of the production lines. The machine layout was provided by the client in the first place and was integrated in detail with the



site plan
key 1. production block 1. 2. production block 2. 3. production block 3.
4. expansion area. 5. future offices and canteen. 6. boiler house and service block.

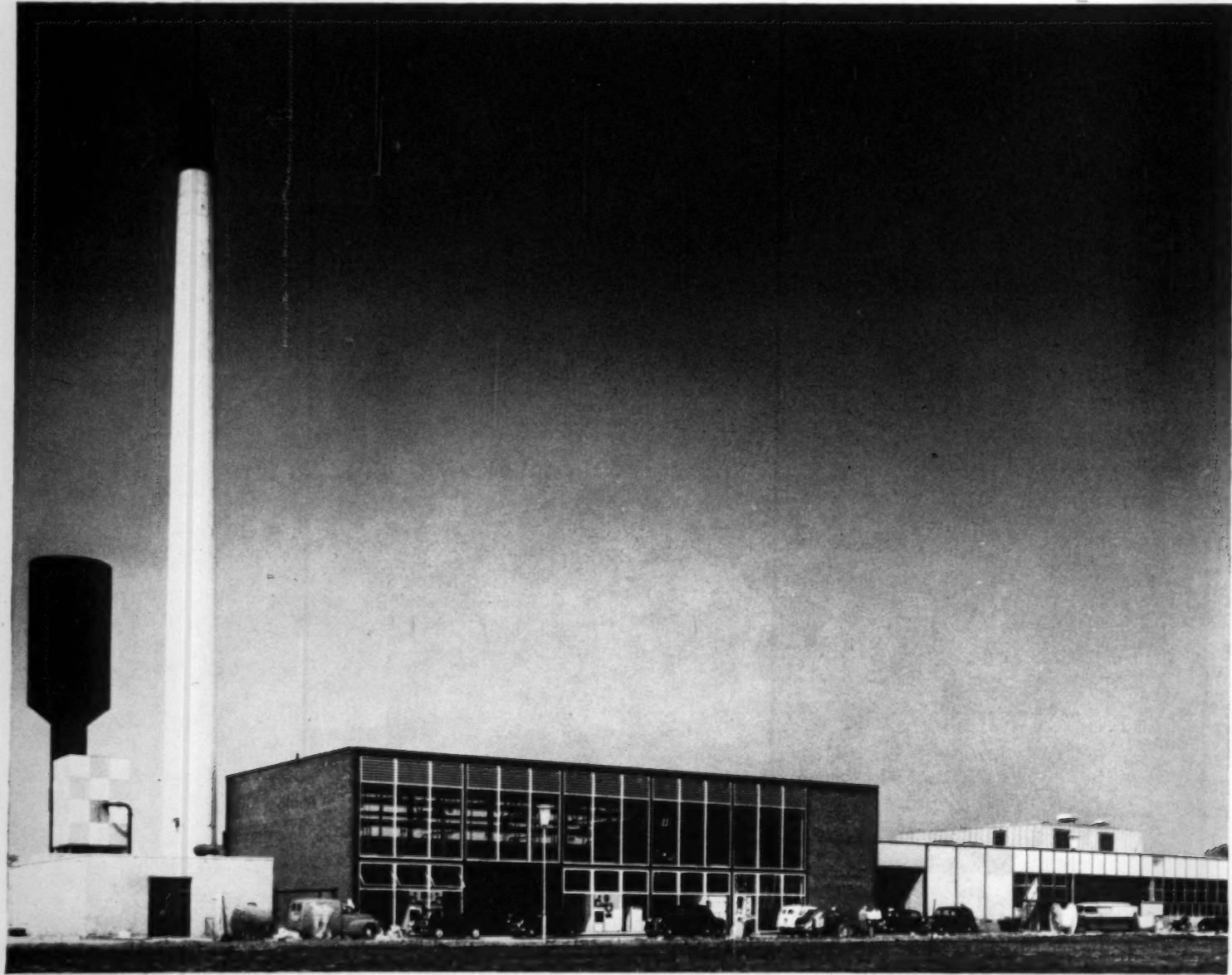


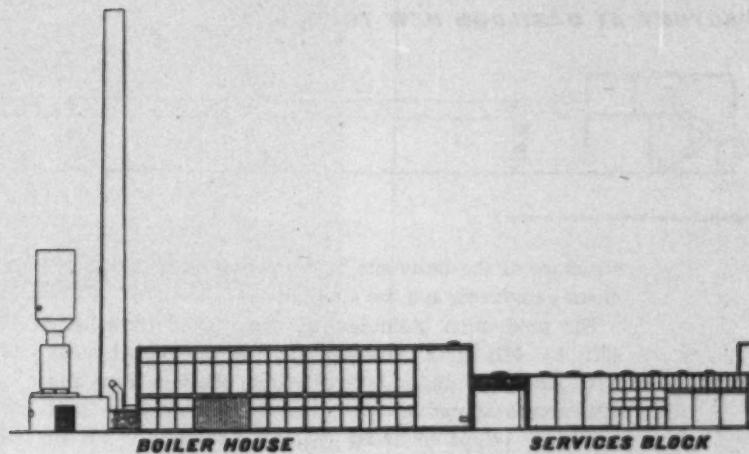
ground floor plan of boiler house and services block
key 1. boiler house. 2. oil storage compartment. 3. engineer's room. 4. factory. 5. horizontal flue. 6. covered way. 7. HT switch room.
8. transformer room. 9. LT switch room. 10. telephone exchange. 11. spirit store. 12. storage area. 13. battery room and telephone workshop.
and store. 14. pump room. 15. refuse disposal yard. 16. store.

FACTORY AT BASILDON NEW TOWN

ARCHITECT **ANTHONY B. DAVIES, Chief Architect-Planner, Basildon Development Corporation**

1, the boiler house (centre) and the services block (right) from the east. On the left is the steel water tower.

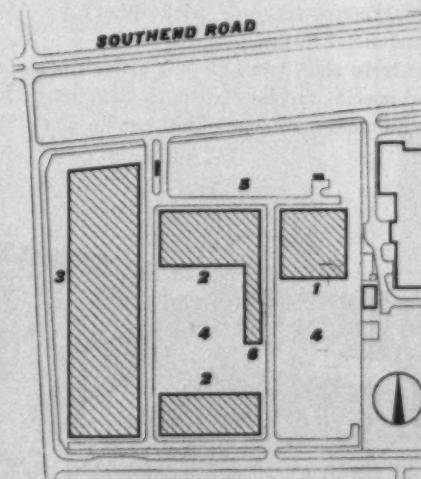




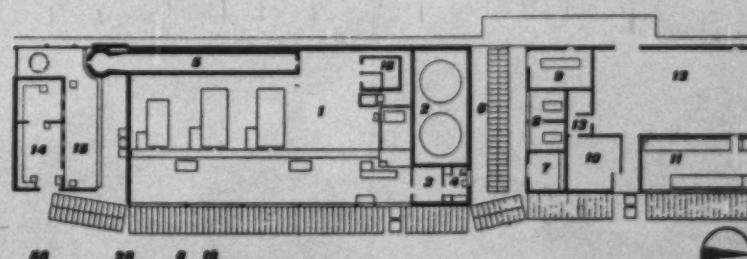
Most of the industrial architecture of the New Towns has not, so far, been more than competent and efficient, and the Ilford factory at Basildon is therefore the more welcome for having got off this level of the decent minimum to produce something with stronger claims to be considered as architecture. Nevertheless, an improvement in architectural quality is still not enough to bring the industrial areas of the New Towns up to the standard of the residential architecture there. Their planning rises little above the quality of pre-war trading estates, as if it were sufficient to group the factories into a kind of industrial Siberia, out of sight and mind, where standards applicable elsewhere could be relaxed. Clearly, planning for unspecified and variable industrial use has its difficulties, but it should not be impossible to raise the present uninspired planning of the industrial areas to a higher level, worthy of this and the few other well-designed factory buildings.

This factory, for Ilford Ltd., in the Nevendon industrial area of the new town, is designed to concentrate the company's production units, at present operating in widely distributed works, in one place. Three parallel production buildings and a boiler house have been laid out on the 19-acre site, with vehicular access roads and parking lay-bys between. Only one of the buildings has so far been constructed to its ultimate size (see site-plan) and space has also been left for six-storey office and canteen block at right-angles to the production buildings.

The planning was determined by a number of operational requirements: that floor areas should be uninterrupted in order to allow flexibility in use and freedom of plant layout; that floor and road levels should be uniform to facilitate fork-lift trucking throughout the site; that good natural daylighting should be available, except in certain areas where photographic processes require all natural light to be excluded, but that light and dark areas should be interchangeable as required; that services should be available at all points in the buildings; that the structure and the services should give as few dust-holding surfaces as possible. Cloakroom and office accommodation is planned so as not to interfere with the main flow of the production lines. The machine layout was provided by the client in the first place and was integrated in detail with the

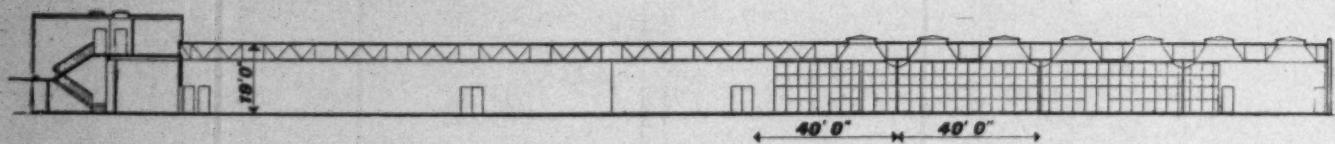


site plan
Key 1. production block 1. 2. production block 2. 3. production block 3.
4. expansion area. 5. future offices and canteen. 6. boiler house and service block.



ground floor plan of boiler house and services block
Key 1. boiler house. 2. oil storage compartment. 3. engineer's room. 4. laundry. 5. horizontal flue. 6. covered way. 7. HT switch room. 8. transformer room. 9. LT switch room. 10. telephone exchange. 11. spirit store. 12. storage area. 13. battery room and telephone worksroom and store. 14. pump room. 15. refuse disposal yard. 16. stairs.

FACTORY AT BASILDON NEW TOWN



Longitudinal section through production block 1

structure of the buildings by collaboration between the client's engineers and the architects.

The production buildings are constructed on a basic 40ft. by 40ft. grid. The structure is in welded steel, with pairs of tubular lattice beams, 4ft. 6in. deep and 6ft. apart; spanning 40ft. between stanchions, and secondary beams spanning 34ft. All services are carried within the duct-ways between the pairs of beams. This system provides maximum room for services, enables them to be enclosed by an asbestos ceiling lining and allows easy access to them from any point on the production floor. The frame structure of the roof was designed to meet these conditions by Ove Arup and Partners and was prefabricated off-site. The stanchions are formed of welded steel channels giving a 7in. section.

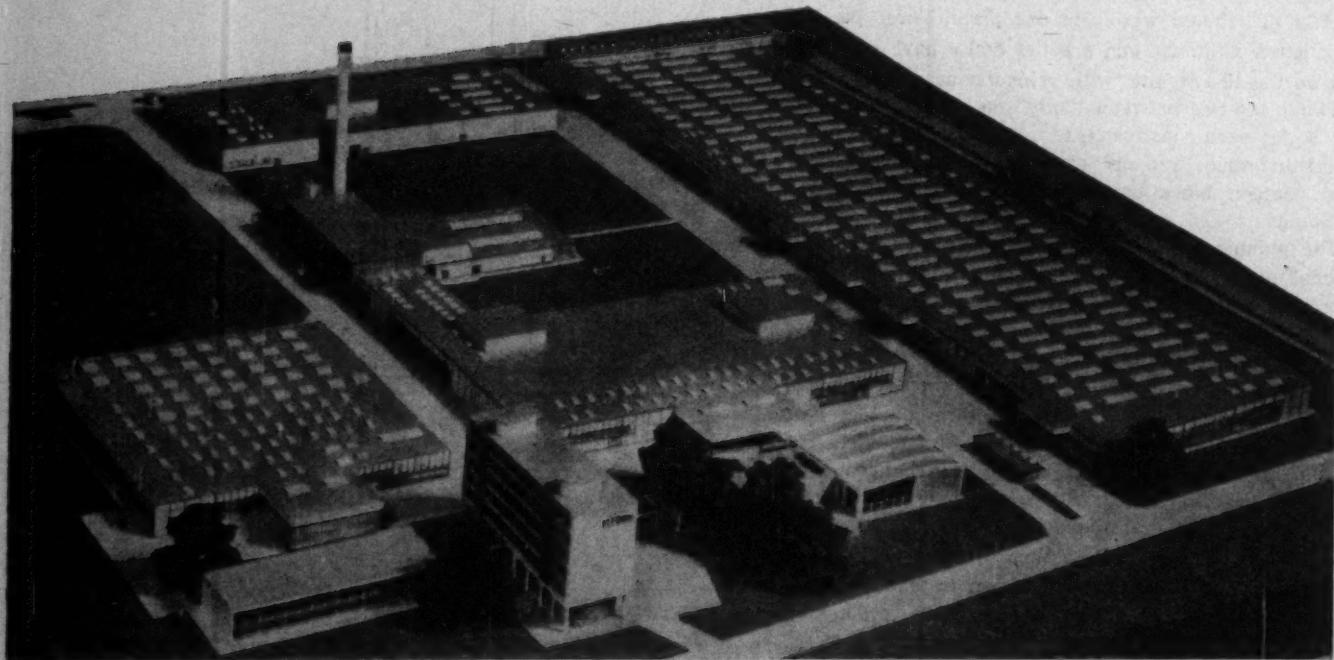
Within each 40ft. square bay are two roof-lights, each 28ft. by 8ft., glazed with white ply-glass and providing uniform daylighting throughout the factory of between 26 and 34 per cent. External walling consists of anodized aluminium sashes fixed into steel perimeter stanchions at 10ft. intervals. They are glazed interchangeably with sheet glass or vitreous enamelled panels to give either daylighting or darkness as required. Permanent internal partitions (as for cloakrooms, etc.) are brick; others are in demountable glazed metal framing.

The reinforced concrete slab floors have a granolithic finish generally, and special finishes (such as chemical-resisting asphalte and acid-resisting tiling) where the

manufacturing processes require it. Special paints have also been used to protect the structure in these areas. The exposed areas of the steel frame are painted matt black externally.

The services for the whole factory are grouped in the boiler-house and services block on the eastern side of the central production building. An underground duct surrounds this building, with branches to the other buildings. The duct contains high-pressure steam and condensate mains, chilled and cooling process waters, cold and drinking water supplies, electricity, gas and telephones. Where the duct enters each production building is a service room from which the services are distributed. The manufacturing processes and the heating require a large amount of high-pressure steam which is generated by three oil-fired boilers. There is room for a fourth. Heating is by steam unit heaters or low-pressure radiators, all of which are suspended within the ceilings of the production buildings. The central production block is partly air-conditioned, by plant housed at first floor level.

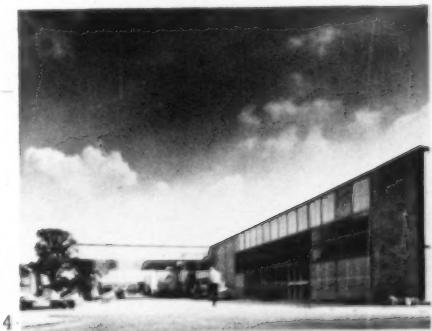
The factory was designed in collaboration with A. G. Horton, chief engineer, Ilford Ltd. Senior architect, Douglas Galloway; group architects, R. S. Chesher, K. L. Abbott, A. P. Rowson, J. Bryon; structural engineers, Ove Arup and Partners; services engineers, Donald Rudd and Partners; quantity surveyors, E. C. Harris and Partners; landscape consultant, Sylvia Crowe.



2. model of the complete factory, seen from over the Southend Road. In the foreground are the projected office and canteen blocks.



3. typical staff entrance to one of the production buildings, which has a black steel frame, aluminium windows and trim and grey vitreous enamel panels.

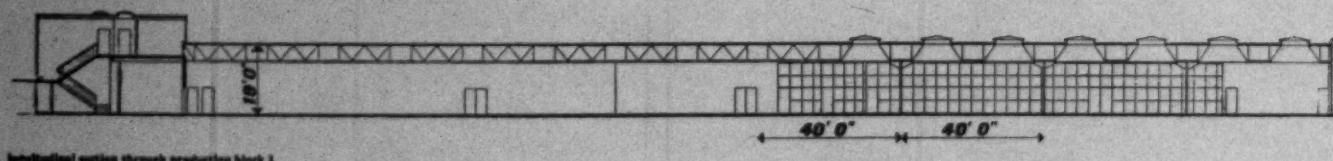


4. production block 2 from the north-west, with its main unloading area and canopy.



5. production blocks 2 and 3 from the south-east. Glass and vitreous enamel panels are interchanged according to the function inside the building.

FACTORY AT BASILDON NEW TOWN



Longitudinal section through production block 2

structure of the buildings by collaboration between the client's engineers and the architects.

The production buildings are constructed on a basic 40ft. by 40ft. grid. The structure is in welded steel, with pairs of tubular lattice beams, 4ft. 6in. deep and 6ft. apart; spanning 40ft. between stanchions, and secondary beams spanning 34ft. All services are carried within the duct-ways between the pairs of beams. This system provides maximum room for services, enables them to be enclosed by an asbestos ceiling lining and allows easy access to them from any point on the production floor. The frame structure of the roof was designed to meet these conditions by Ove Arup and Partners and was prefabricated off-site. The stanchions are formed of welded steel channels giving a 7in. section.

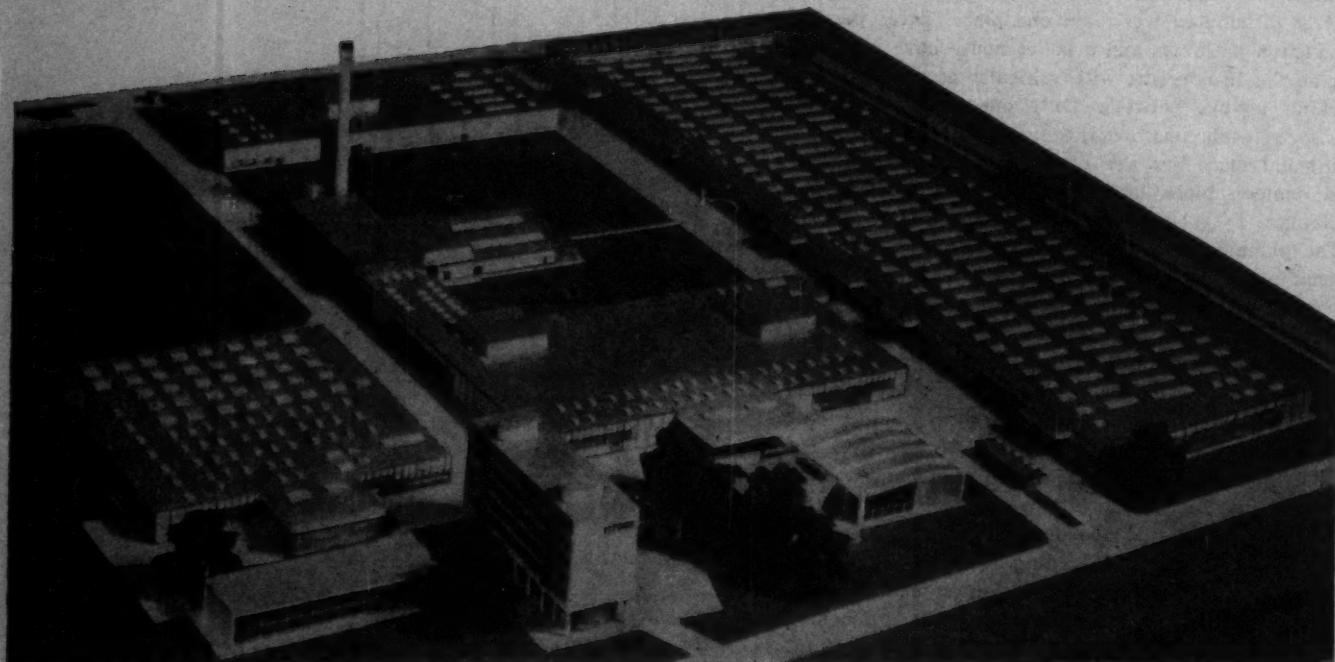
Within each 40ft. square bay are two roof-lights, each 28ft. by 8ft., glazed with white ply-glass and providing uniform daylighting throughout the factory of between 26 and 34 per cent. External walling consists of anodized aluminium sashes fixed into steel perimeter stanchions at 10ft. intervals. They are glazed interchangeably with sheet glass or vitreous enamelled panels to give either daylighting or darkness as required. Permanent internal partitions (as for cloakrooms, etc.) are brick; others are in demountable glazed metal framing.

The reinforced concrete slab floors have a granolithic finish generally, and special finishes (such as chemical-resisting asphalte and acid-resisting tiling) where the

manufacturing processes require it. Special paints have also been used to protect the structure in these areas. The exposed areas of the steel frame are painted matt black externally.

The services for the whole factory are grouped in the boiler-house and services block on the eastern side of the central production building. An underground duct surrounds this building, with branches to the other buildings. The duct contains high-pressure steam and condensate mains, chilled and cooling process waters, cold and drinking water supplies, electricity, gas and telephones. Where the duct enters each production building is a service room from which the services are distributed. The manufacturing processes and the heating require a large amount of high-pressure steam which is generated by three oil-fired boilers. There is room for a fourth. Heating is by steam unit heaters or low-pressure radiators, all of which are suspended within the ceilings of the production buildings. The central production block is partly air-conditioned, by plant housed at first floor level.

The factory was designed in collaboration with A. G. Horton, chief engineer, Ilford Ltd. Senior architect, Douglas Galloway; group architects, R. S. Chesher, K. L. Abbott, A. P. Rowson, J. Bryon; structural engineers, Ove Arup and Partners; services engineers, Donald Rudd and Partners; quantity surveyors, E. C. Harris and Partners; landscape consultant, Sylvia Crowe.



2. model of the complete factory, seen from over the Southend Road. In the foreground are the projected office and canteen blocks.



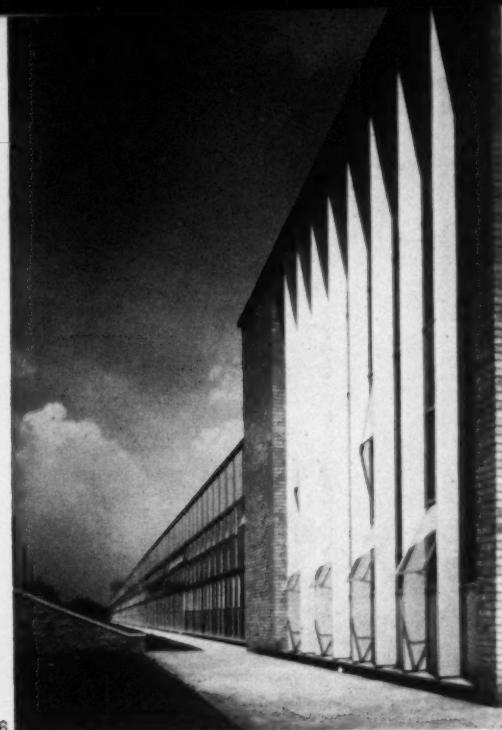
3, typical staff entrance to one of the production buildings, which has a black steel frame, aluminium windows and trim and grey vitreous enamel infill panels.



4, production block 2 from the north-west, with its main unloading area and canopy.



5, production blocks 2 and 3 from the south-east. Glass and vitreous enamel panels are interchanged according to the function inside the building.

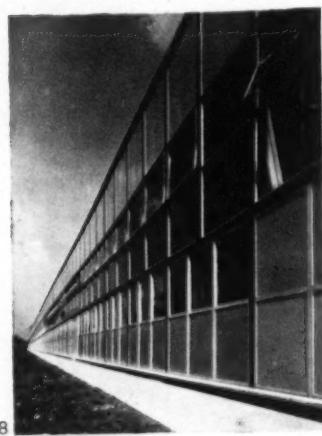


6

6, the two-storey office block and production block 3 from the south-west. The office block has golden brown hand-made facing bricks and anodized aluminium fins and windows.

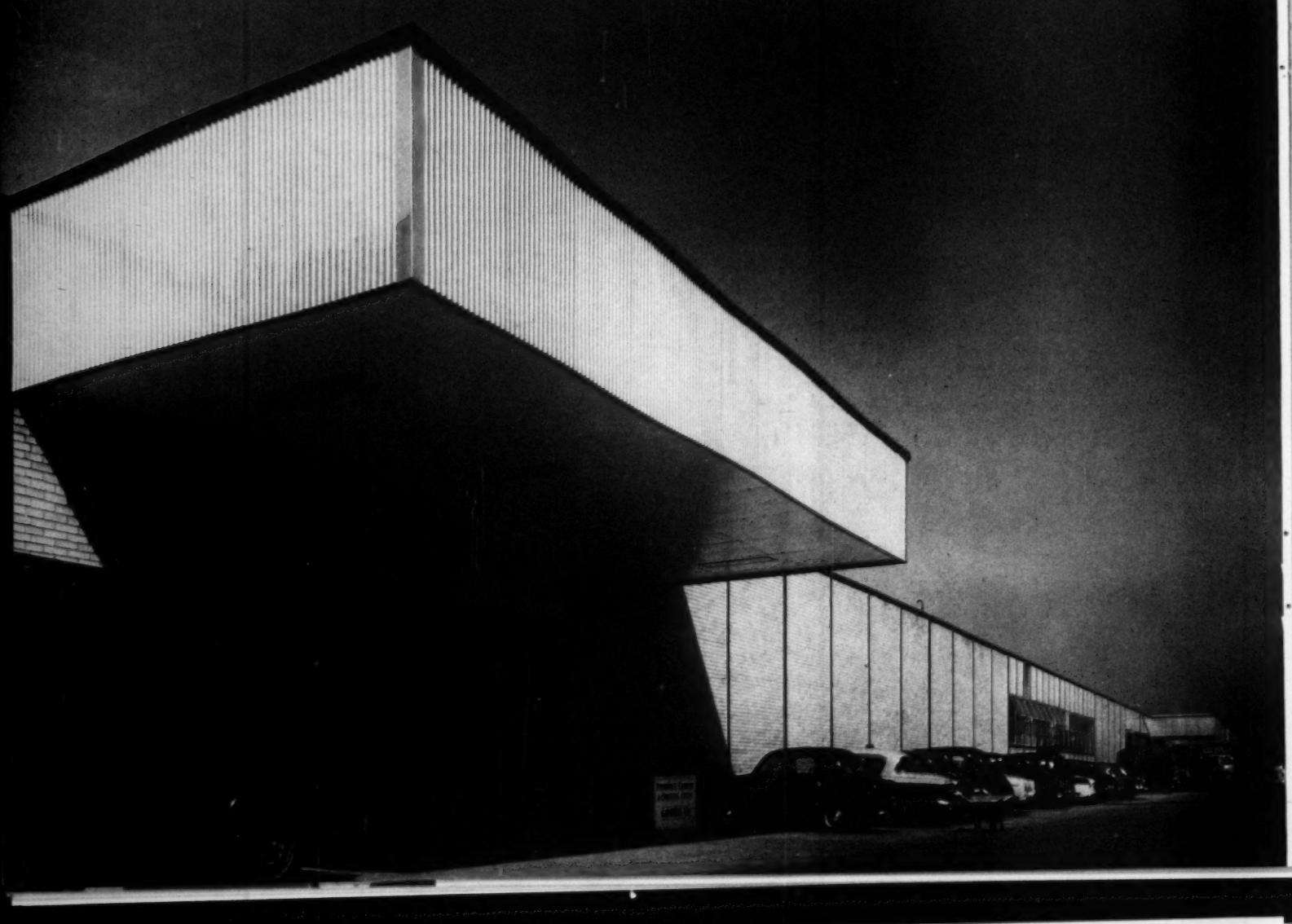
7, typical cantilever canopy over an unloading bay. The fascia is of ribbed aluminium.

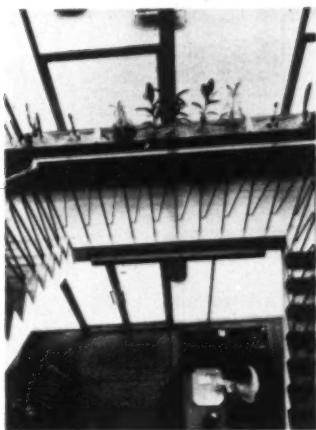
8, the west elevation of production block 3.



8

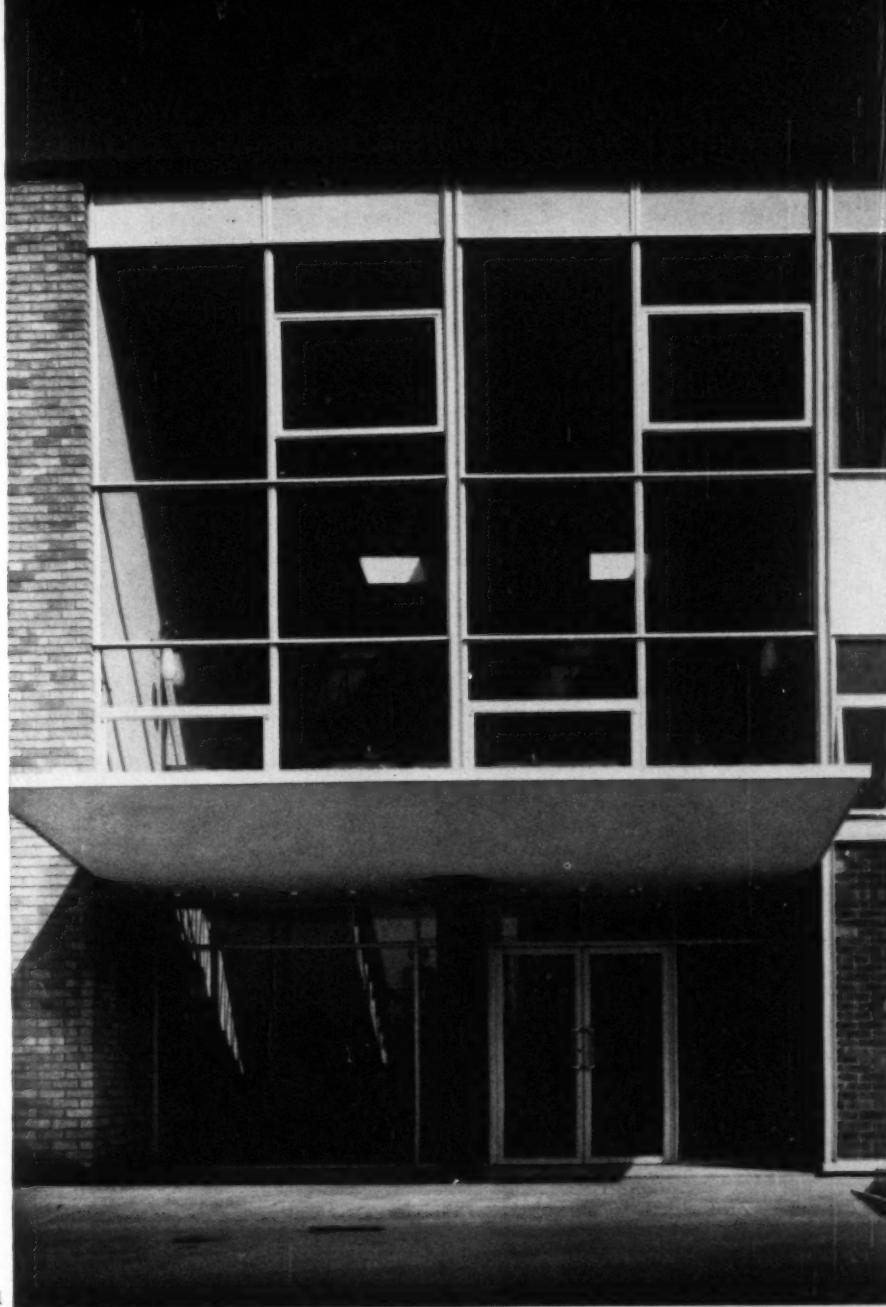
7





9

9, entrance hall of the two-storey office block from the first floor. The steel treads and floor of the staircase are finished with Rhodesian teak. The black steel balustrade has a teak handrail.



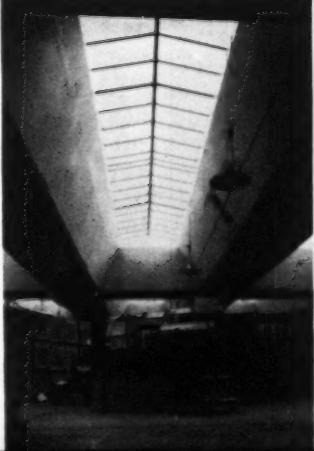
11

10, part of a production area showing the service ways and roof beams enclosed by the ceiling - cladding and the suspended humidifiers.

11, the entrance to the two-storey office block, which is at the south end of production block 3.

12, south elevation of the office block.

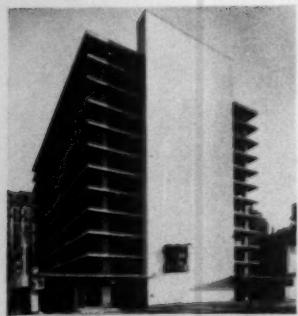
10



12



FACTORY AT BASILDON NEW TOWN



Chicago's Number 1 City Garage is connected to the upper and lower levels of Wacker Drive, one of the main traffic routes, at its intersection with one of the approaches to the Loop, the city's central area. This is the sort of peripheral and linked location which parking structures must achieve in order to be effective. The building, designed by Shaw, Metz and Dolio, demonstrates also the visual excitement of open decks in the urban scene; the outlook beyond the safety barrier of tensioned stainless steel cables is the motorist-pedestrian's new view-point of the city.

Michael Brawne

PARKING TERMINALS

In most cities, the multi-storey garage is a desperate solution to an intolerable problem—kerbside congestion—and is regarded, at best, in the negative sense of a necessary evil. But if the trend of present thinking can be reversed, so that these garages are not regarded as litter-bins for surplus cars swept off the streets, but as the place where cars naturally come to rest and the motorist willingly becomes a pedestrian, then the parking garage becomes as valid and valuable a contribution to the urbanism and architecture of the town as were the railway terminals—to use the comparison made by Michael Brawne in his article below—that were erected a century ago.

Parking structures are terminals; like the great railway sheds of the nineteenth century, they are points of interchange between two forms of movement—on one side the private motor car, on the other the pedestrian, public transport, lifts, escalators, moving pavements. Car parks are the focal points which must be the origin and destination of private urban motoring. The great Autorimessa at the land end of Venice, now twenty-seven years old, is thus still in terms of location the unsurpassed prototype. Until Fort Worth accepts the Victor Gruen plan, it is unlikely to be equalled.

The detailed design of parking structures demands a certain degree of specialized skill if these are to be efficient and profitable, yet this is, in some ways, a minor problem. There are now after all several inherently simple methods of stowing a motor vehicle which provide adequate and acceptable answers for a range of situations. The difficulty is not the how, but the where.

Location is of course an urban planning decision

based on a policy of land use. All planning decisions are, in the last resort, judicial acts: the adjudication between two recognized moral rights, the freedom of the individual and the safety and wellbeing of the community. In this case every individual user wants to get his car to his own particular destination. In terms of the community, however, this may occasion anything from mild traffic chaos to the suicide of the urban core. And unless a planning decision is made, neither right will be satisfied. Failure to determine the position of parking structures in relation to a town's traffic pattern, both on plan and in section, means that the present entrenchment of capital expenditure on these structures may compromise or even make impossible a rational decision in the future.

The necessity for a decision is largely a matter of arithmetic; only, as in the case of budgets or the detonated power of hydrogen bombs, the numbers are so vast as to fail to make an immediate impact. If, for example, we were to attain in this country the



1, the Autorimessa in Venice is Europe's largest parking structure and the most clear cut in its function. It holds 2,400 cars and is the terminal of all vehicular traffic approaching the city. The civilized situation which results needs emulation elsewhere.

number of cars per person which is conservatively forecast for the United States in 1976, there would be around 22 million registered vehicles. This is roughly four times the current figure and represents a ratio of 1.6 cars per family. The effects of such an increase are barely calculable and almost impossible to imagine, particularly when one remembers that between 1940 and 1956 the number of cars in Britain doubled, from two to almost four million. Yet this rise is only one-eighth of the likely increase. These figures also refer to cars only, the probable users of parking structures, and exclude scooters, motorcycles and commercial vehicles. At the moment this group adds up to another three and a half million. Car production capacity is certainly capable of creating these numbers: an annual increase of three-quarters of a million vehicles could be maintained by the Volkswagen factory at Wolfsburg alone.

No road pattern has enough kerb space to hold this volume of traffic nor should it ever be required to do so.

Traffic flow, to be efficient, must in any case be separated from the random traffic stops and starts caused by parking. Nor can there ever be enough off-street ground-level space for cars at rest without both destroying the city and removing the car inordinately far from the driver's destination. Multi-level vehicle storage is thus inescapable.

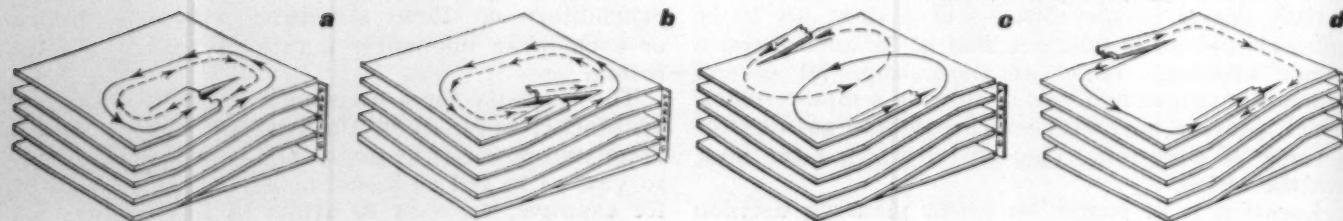
However designed, parking will not be used unless it is free or the charges are considered reasonable. Feelings about reasonableness vary a good deal. They are affected by closeness and length of stay. Sixpence per half-hour next door to a department store seems reasonable; eight shillings a day to park a car while at the office appears outrageous. Such considerations need always to be taken into account when locating parking which is to show a profit.

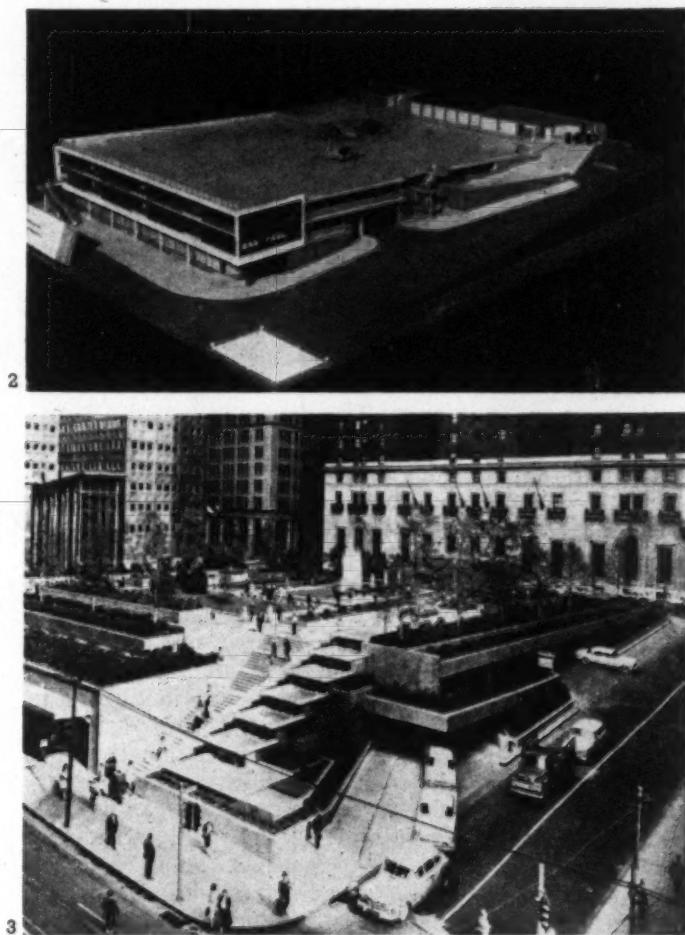
No urban parking is in any real sense free. For a 40-ft. carriageway with parking on both sides, half the cost of construction, maintenance and servicing is properly chargeable to parking. This is quite apart from the hidden cost of traffic delays caused by vehicles moving in and out of the parking lanes. The cost of building parking-structures must therefore be seen in relation to road-costs and especially to road widening programmes. Several possible methods of financing have so far been used.

Parking may be municipally owned and operated and provided free as in the ramp garage at Hemel Hempstead, 2. It is more frequently owned by the municipality and leased to an operator who may however only charge an agreed scale of parking fees. Parking is sometimes also built by the municipality out of profits made from parking-meter revenue, or financed by a rating assessment on commercial properties near the parking facility, which is related to their nearness and size. Alternatively, parking structures are built as ordinary commercial ventures with charges determined by economic considerations. A further refinement of this form of financing is where local shopkeepers validate their customer's parking ticket for a certain length of time at a particular garage in proportion to the amount of goods bought. A five-shilling purchase might give half an hour's free parking for instance.

Both publicly and privately owned parking depends for its success in terms of economics and town-planning on being backed by ordinances which forbid or severely restrict street parking. Even where the demand for parking space is such that a parking structure is certain to be a financial success, street

Diagrams a to d, drawn by the National Parking Association of Washington, DC, show the wide range of ramped structures from which it is possible to choose. Systems which separate up and down traffic, like b or d, are to be preferred. Various





2, 3, urban parking is often a local government service. In Hemel Hempstead, 2, it is provided free by the Development Corporation; in Pittsburgh the Mellon Square Underground Garage, 3, in the centre of the town has been leased to private management.

equipment is, however, considerable and its use is therefore only justified where land values are high or the plot is so small as to make other parking arrangements impossible. In practice this means the densest central areas of the city. Yet it is precisely in these areas that the location of parking spaces is most questionable. Mechanical parking structures have been a most useful visual demonstration of the extent to which car storage can be reduced to its sparsest elements, 4. This should not, however, be an encouragement or justification of their use in zones where private vehicles have probably no place.

Most mechanical systems consist of a hoist which can also move horizontally, a kind of lift on rails. This moves up, down and sideways in a central aisle, delivering or collecting cars from racks on either side. In the case of the Pigeon Hole system the lift runs on rails on the ground, in the Bowser system it is suspended from the roof. There are at least half a dozen similar patented systems on the market which differ in the degree of automatic control and the design of the dolly which lifts the four wheels of the car off the ground in order to make it a handleable package.

Some of these handling operations can, if necessary, be done manually. The Pearce system, for example, recognizes that in this country cars are still small and labour costs relatively low. A car is therefore pushed by two attendants into a lift which takes it to an upper floor. There it is again pushed by hand on to a trolley which is moved sideways on rails until it is opposite a vacant parking space. All movement is in straight lines and only vertical movement is mechanical. Cars can, as in some but not all mechanical systems, be locked by their owners but are, unlike the cars in all the fully mechanised forms, never lifted off the floor. The Pearce Autopark in Birmingham is, with a daily charge of 5s., the only multi-storey car park in this country which actually claims to make a profit. Whether it will continue to do so as labour costs go up remains to be seen.

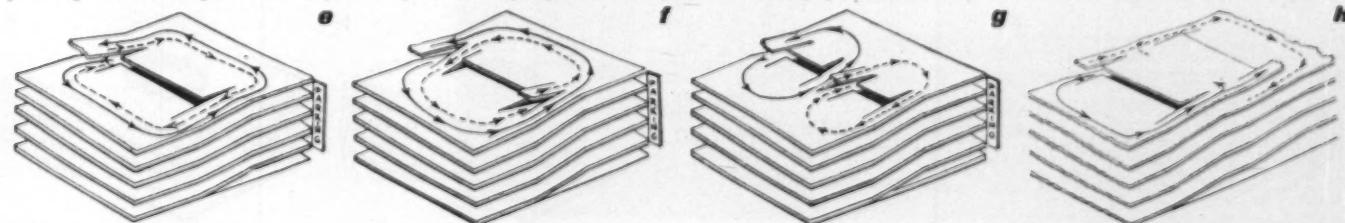
When motor cars move to higher (or lower) levels under their own power they may be driven by attendants or their owners. Most early garages were attendant-operated since it required considerable experience, if not daring, to manoeuvre vehicles on the steep ramps and constricted floors which were believed economically necessary. The increased cost

parking should be deliberately limited. Parking facilities should always be considered as means of clearing cars from crowded streets, not as devices for attracting a greater volume of traffic. A few cities like Pittsburgh have seen this clearly and acted on it with commendable consistency.

Cars can be stowed aloft under their own power or mechanically positioned. The choice is one of economics. All parking-structure design is a financial balancing act of land values, building costs, labour charges and usable space in terms of possible receipts or public policy. Mechanical handling compresses the operation into a smaller space, since both horizontal and vertical movement is in straight lines and clearances between vehicles, being mechanically predetermined, can be at a minimum. The cost of the

forms of staggered floor parking are illustrated in diagrams **e** to **h**. These drawings show, of course, only the system of circulation and not the actual floor layout. The ramps need not, for example,

always be peripheral but may have parking on each side of them. The system shown in diagram **f** can be modified so that the whole structure is a series of sloping or warped planes at a slope (continued on page 128)





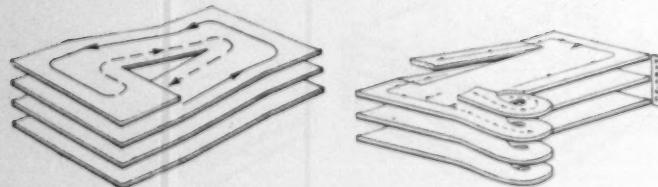
4, car storage at its most basic: the steel framing of a mechanical unit using the Pigeon Hole system in Portland, Oregon.

5, the two concentric ramps of San Francisco's Downtown Center Garage at the corner of an L-shaped building. One ramp is for up, the other for down, traffic. The completely open decks of both methods of parking are a new visual form among the sheathed buildings of the city.

5



of 1:40 to 1:25. Similarly other systems than J may combine two different ramp forms, one for up movement while looking for a parking space, the other for quick down travel. Circular ramps need not, as can be seen from 5, be placed centrally.



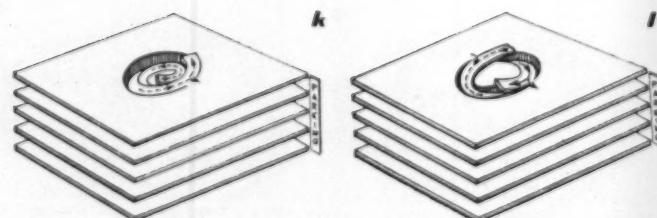
of labour, especially the necessity for a large staff at peak demand, and the notorious driving habits of attendants, have made such parking structures virtually obsolete. The recently completed garage next to Selfridges is manned by attendants who take the car from the customer at each floor—not at the entrance—and put it into a stall. This is a possible compromise when floor-space is severely restricted.

Self-parking, like the self-service shop, appears to make sense in terms of economics and psychology. Although the amount of area needed per vehicle is greater than for either mechanical or attendant-operated structures, the running costs are considerably lower. A parking structure can be operated by a cashier at the exit only. The driver is issued a time-stamped ticket at the entrance by a machine (one brand in the US goes under the revealing name of 'Ticket Spitter') and then parks his car in the first available space. The ticket and parking fee are collected at the car exit. The ticket machine can be connected to a gate across the driveway which is only raised after a ticket has been issued.

The wider and shallower ramps and the more unobstructed floor spaces needed in this type of parking give a considerable degree of flexibility in use. As cars have got longer in the United States, many structures are now used uneconomically since vehicles no longer fit the divisions assigned to them. This applies particularly to column spacings and aisle widths. Wherever possible floors should be free of columns. This demands spans of about sixty feet. The great virtue of such an arrangement is that as the dimensions of cars change, the angle of parking can be varied. As cars get longer, the angle becomes shallower. The two arrangements for 45° and 60° parking **m**, **n**, taken from Baker and Funaro's book *Parking* are for cars of the same length. Conversely, of course, cars of greater length could be fitted into the 61 ft. wide space at a shallower angle. Over a given length their number would naturally be less.

The further important advantage of allowing generous dimensions, such as a 10 ft. stall width per vehicle, is that parking efficiency is largely measured in terms of time. Unless movement in and out of stalls and up and down ramps can be done speedily, serious hold-ups can occur at times of greatest use. Speed also makes it necessary that all decision-making should be avoided; there ought to be no choice of ramps or exits, traffic flow must be channelled and continuous. Nothing causes greater dissatisfaction among drivers than the inability to leave a garage quickly.

[continued on page 133]



6

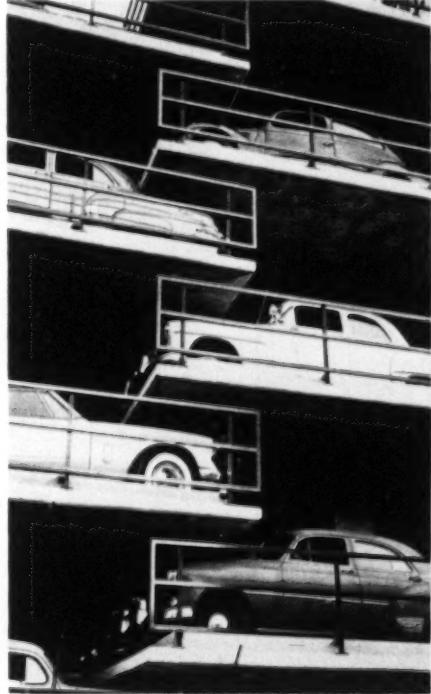


6, the steel shelving of 4 carried out in concrete, in this case a 12-storey lift-slab structure of two towers linked by steel beams at the ends only. The two hoists mechanically park the cars. The building was designed by Tibbals-Crumley-Musson and is in Columbus, Ohio.

7, the staggering of floors can produce considerable savings of space; this detail at the end of a structure in Atlanta, Georgia, designed by Aech Associates, clearly shows the amount of overlap possible due to the outline of the typical motor car. It also illustrates the success of the simplest possible detailing.

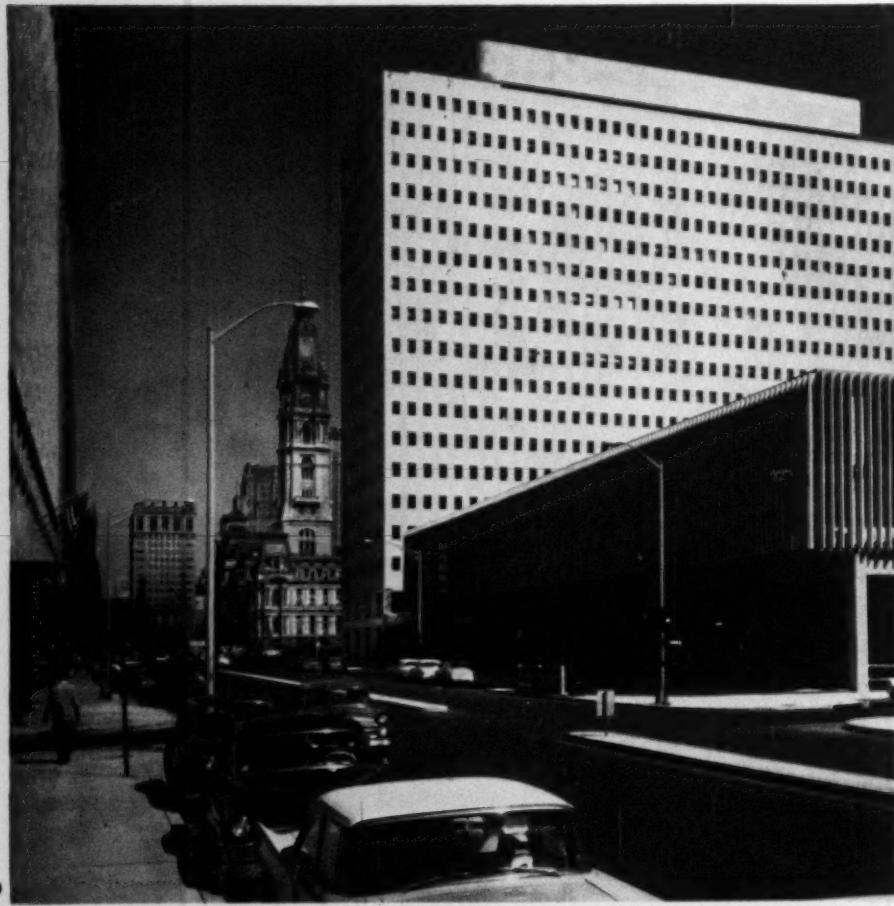
8, although the floors are staggered in this building in Milan by Varisco, the structure really consists of two sets of parking floors linked by a central ramp. There is thus no saving of space through any overlap; only the length of ramp between floors is shortened. Placing petrol pumps in line with the main traffic flow is likely to cause difficulties at rush hour. Service facilities like fuelling, car washing and minor repairs must never interfere with the movement of cars or need the sort of decision making which reduces the numbers able to enter or leave within a given time.

7

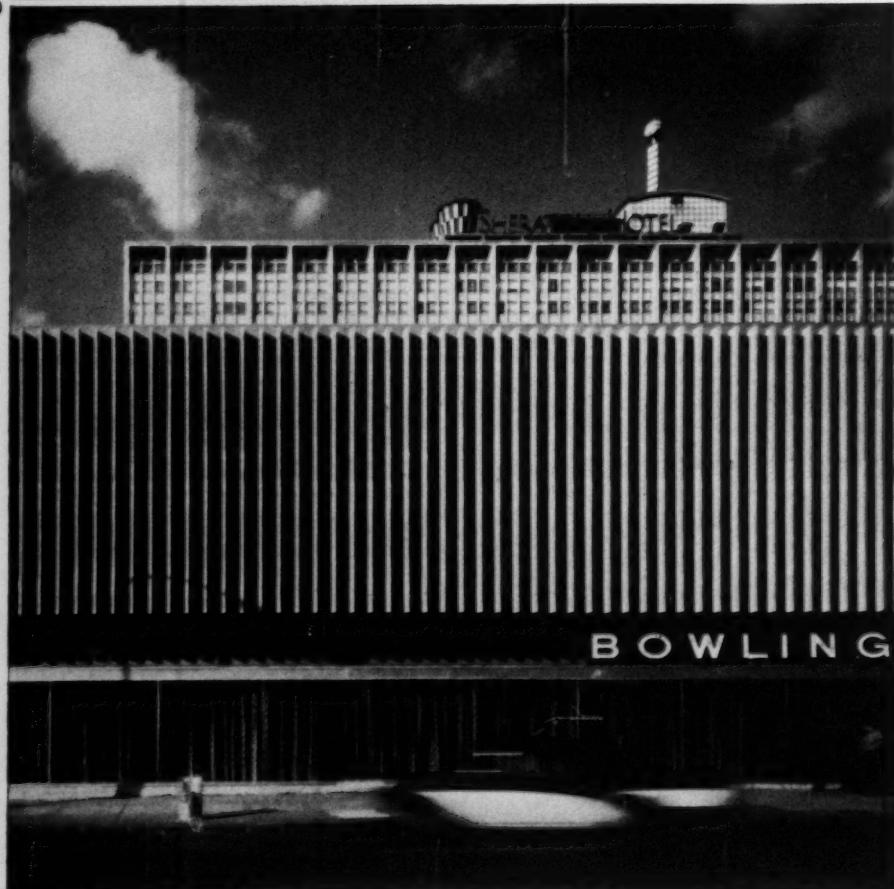


8





9



10



11

Parking is often linked to other buildings, frequently as a result of planning ordinances demanding a certain number of car-spaces related to the amount of floor area or the number of users. Whether this is always a wise decision is highly questionable. It perpetuates the present road system and scatters the car over the entire area of the town. It may remove the stationary car off the street without requiring a great deal of action or thought, but it does nothing to clear the centre of cities of moving vehicles. 9, this is a special and probably justified case of linked parking. Philadelphia's Transportation Center, designed by Vincent J. Kling, is part of the new Penn Center and contains, apart from parking for the Sheraton Hotel on the left, a Greyhound Bus terminal and restaurant, an office building, an airline terminal, a bank and other commercial uses and is connected to an underground station, a lower pedestrian concourse and an underground service street. It is a major achievement in the organization of urban land use.

10, the two floors of parking in the above building are screened by closely spaced precast concrete fins. The spaces between the fins are left open.

11, the Tishman Office Building on Wilshire Boulevard in Los Angeles by Victor Gruen has a parking structure to one side. This makes an easier structural connection than if the two were superimposed.

12, this scheme's civilized entrance and signposting show the concern now given to a building type which has in the past been too often sordid and makeshift.



12

130



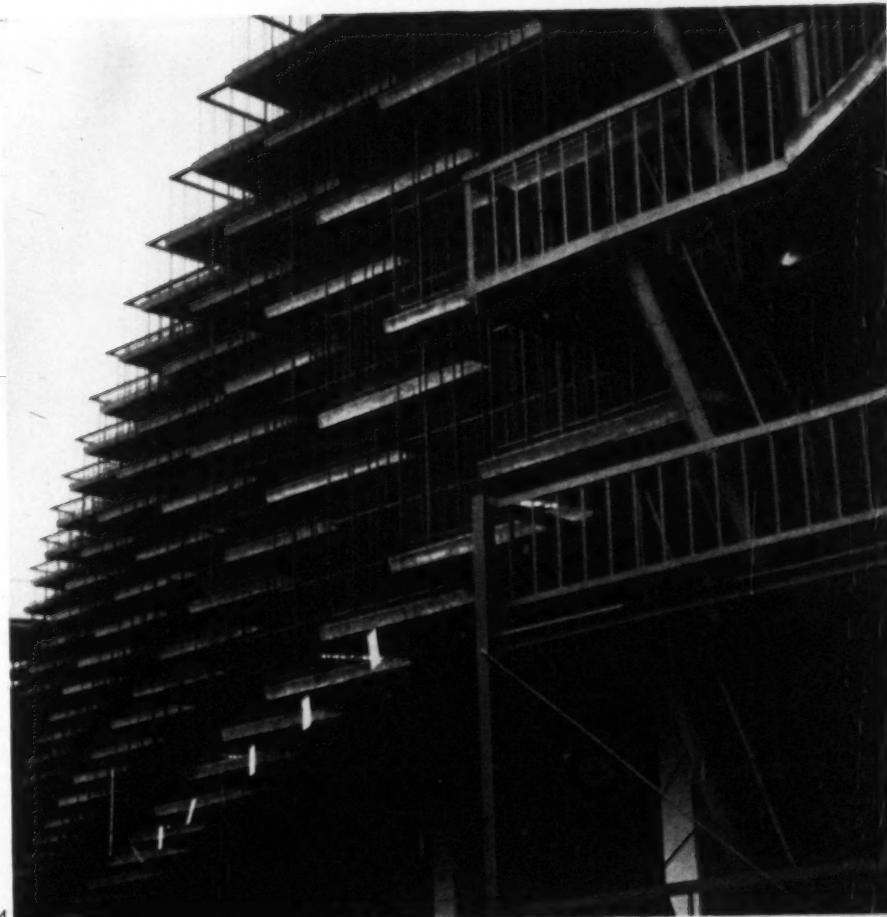
13

The toothed outline produced by angle parking can become a clear visual signal of the function of the building.

13, the Kent Street Garage owned and operated by the City of Sydney was designed by D. T. Morrow and Gordon and has tubular steel and wire mesh crash barriers.

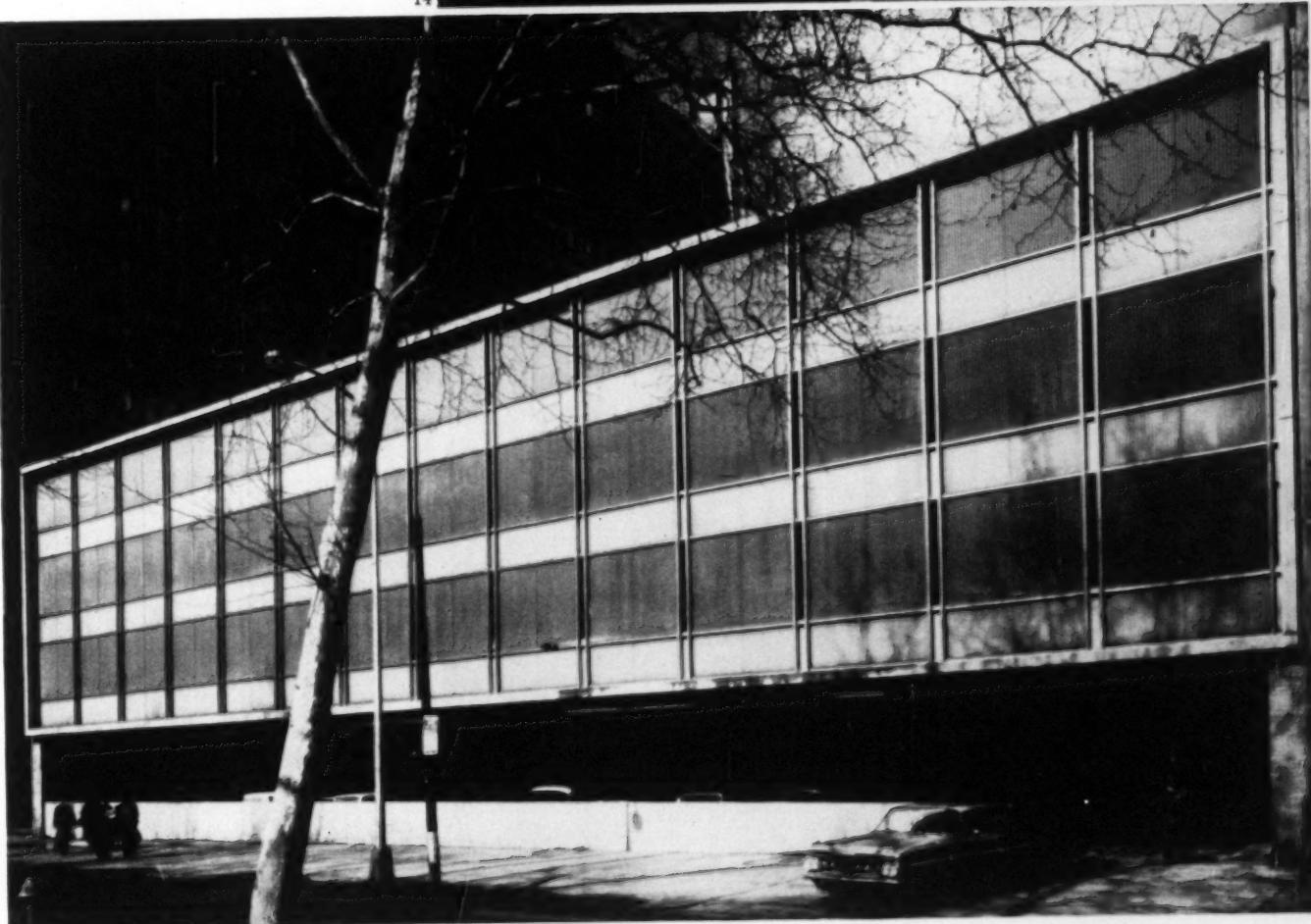
14, the staggered floor parking which is connected to the store floors of ZCMI in Salt Lake City has a barrier of steel rods painted red oxide. This interesting building, designed by Larry Farrant and Bozen, Rule and Bozen, was built from the top downards—the shuttering being suspended from the top floor—so as not to stop access to the service entrance of the shop.

15, a different but often equally valid solution of the exterior: a smooth mesh veil at the parking structure in Rittenhouse Square, Philadelphia, by Lyle S. Boukare.



14

15



131.



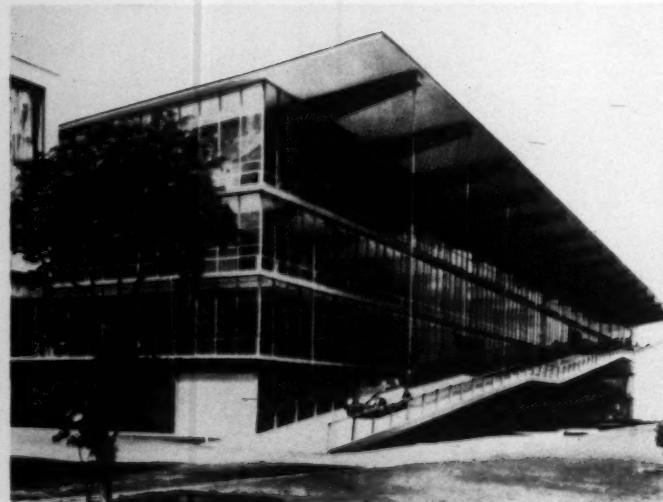
16

The open parking deck, the most economic and rational solution to the problem of upper level car storage, seems so far to be more frequently used in North America than Europe. Perhaps the motor car is still too precious an object on this side of the Atlantic. The payment of a parking fee seems to carry with it an implied obligation to protect the vehicle.

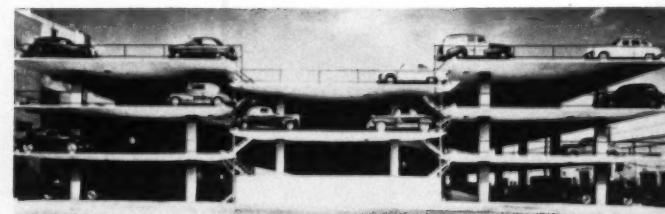
16, John B. Parkin Associates designed seven concrete decks with simple parapets and rails for the Parking Authority of Toronto. Cars are mechanically hoisted by one of three lifts and attendant parked.

17, the Haniel Garage in Dusseldorf by Paul Schneider-Esleben and Dietrich Hartkopf with its now famous suspended ramps. There is room for 600 cars on the three upper floors; the ground floor has service and repair shops.

18, the Parkhaus in Frankfurt combines parking with offices, shops and a service station. The twin helical ramps as at the Downtown Center, 5, are at



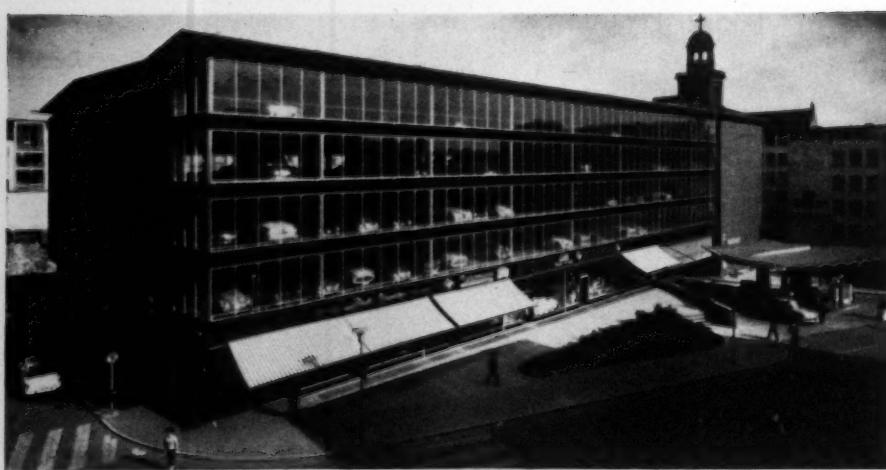
17



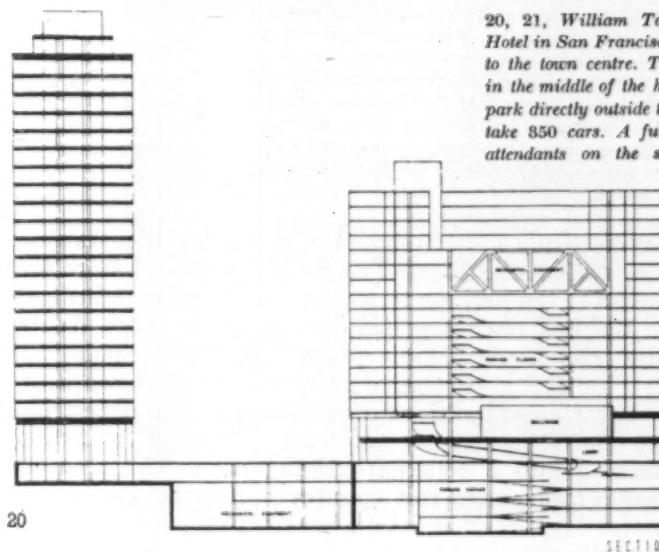
19

the far end of the building. It was designed by Max Meid and Helmut Romeick for a building society owned by the Frankfurt city authority.

19, staggered floor parking in Miami, Florida, for 560 cars with separate up and down ramps designed by Weed-Johnson Associates. The skeletal simplicity of this building may be less polite than the Haniel Garage or the Parkhaus but it may also provide a more sensible and honest answer. Economics are greatly in its favour: the Miami parking cost £290 per car space, the Dusseldorf building £420. Both figures exclude the cost of land.



18



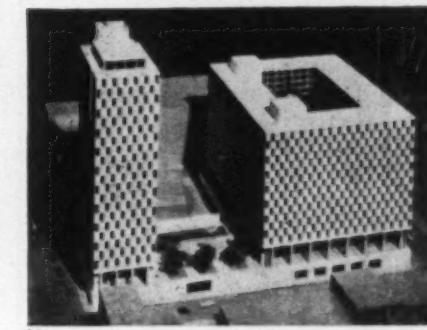
continued from page 128]

The need to wait for one's car is one of the serious disadvantages of attendant-operated garages. There is usually a peak demand for cars at some time during the day—when offices or shops close, or after the theatre. However large the staff, cars can only be delivered from the stalls at regular intervals. Customers on the other hand arrive at random intervals so that inevitably a delay develops. Delays moreover tend to be longest at times when tempers are shortest. If cars are collected by their drivers, these are kept busy and the time lag is not nearly so apparent. It may in fact also be less because a greater number of drivers is involved.

The random times of car arrival cause similar problems and make a reservoir space necessary in all mechanical and attendant-operated structures. The size of this space, in which cars can be left before they are taken to upper (or lower) levels, depends on the number of attendants or the speed of the machinery and the average rate of arrival of cars during the peak hours. The reservoir must not become overloaded or queues will form outside the building, a poor advertisement for a garage at any time. This necessary storage area occurs at ground level where the financial value of space is at its highest and where it might be used more profitably for some other purpose. The need for reservoir space may thus have

The dimensions in feet assuming a generous stall width, b , of 10 feet are for 60° parking, diagram **m**, $c=21.5$, $d=18.0$, $e=11.5$, $f^1=61.0$, $f^2=56.0$ and for 45° parking, diagram **n**, $c=20.5$, $d=13.0$, $e=14.1$,

$f^1=54.0$, $f^2=46.9$. The 10 feet width allows for easy customer parking and future changes in car size. **o** shows an important detail of ramp design taken from Traffic Design of Parking Garages, a



21

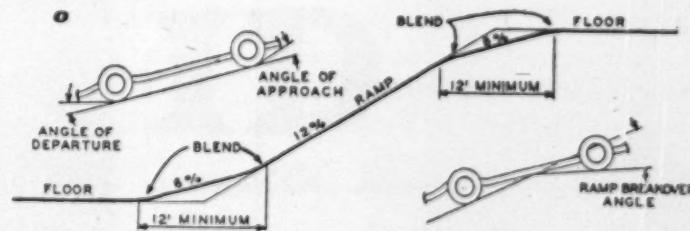
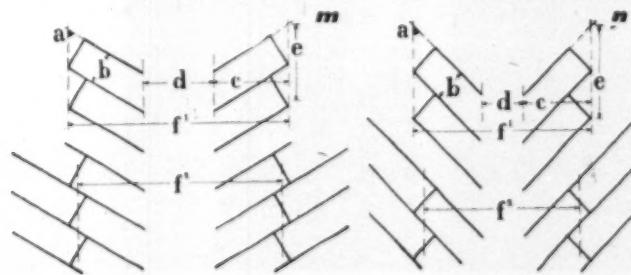
important economic effects on the operation of a particular parking design.

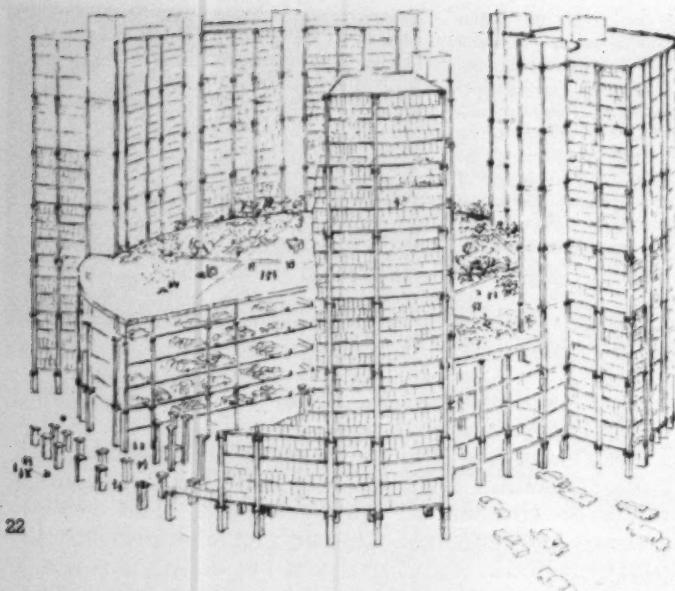
Cars move to higher (or lower) levels on ramps and, doing so within a relatively constricted space, must follow a circular or elliptical path. The various systems shown in the diagrams all conform to this pattern whether the structure is one continuous ramp, the floors are staggered or the ramps become intertwined circles clear of the parking floors. The choice between systems is often a matter of site dimensions and shape and the method of operation. Systems in which cars move up across each floor so that they can be parked as soon as possible and descend down a separate ramp are, for example, particularly appropriate to customer parking.

This function of stowing cars at rest also needs visual expression; advertising considerations alone suggest an unequivocal signalling of function. It is a pity, of course, that multi-storey parking was ever given the name garage. There is a certain domestic flavour about the word, a sort of snug stable brought up to date. Urban parking structures need, however, only consist of open decks, platforms at upper levels which, like the street, do no more than provide space. Cost in any case suggests this: one British parking system claims that it can build a structure at £325 per space but that as soon as it becomes an enclosed building needing cladding, ventilation, fire breaks and so on, the cost goes up to £425-£450 per space.

Two distinct building types are emerging in the present townscape—the largely glass enclosed office building and the mainly unpierced department store: Castrol House and the shop portion of Peter Robinson, to take two recent London examples. Both have a high degree of solidity, though one may be a shining

study by Edmund Ricker for the Eno Foundation for Highway Traffic Control.





22

22, Louis Kahn's drawing is part of his extensive plan for Philadelphia. This, like Victor Gruen's Fort Worth Scheme, reconsiders the whole concept of the town and solves car-storage as part of the total urban plan. Kahn thinks that 'the lower entrances and interchanges, wound-up parking terminals, suggest a new stimulus to unity in urban architecture, one which would find expression from the order of movement'.

have already been designed in a number of instances; for example the floors of ZCMI's department store are linked to the parking terraces as are those of Selfridges to the Lex Garage in London. Both the Fort Worth plan and Louis Kahn's project for Philadelphia, 22, develop this notion within a consistent framework.

These considerations of appearance and pedestrian movement again only emphasize the need for fitting parking into a coherent urban image. The greatest traffic problem in this country is not the absence of motorways, road widening schemes or parking space, but the failure to come to some decisions on the likely pattern. Urban planning has tended to become so preoccupied with the minutiae of elevational control that it has forgotten its basic task of decision-making on land use. The LCC's testimony at the recent Monico site enquiry made this only too obvious. Once the major assumptions on use are made, it becomes possible to choose the individual parking sites in terms of known and projected travel patterns; in terms of neighbouring land use and therefore of likely customers; in terms of public transport facilities and their probable development; in terms of the traffic volume which routes to and from the parking structure are capable of handling.

The parking structure is the first new building type to be produced within the city by the motor age. It thus deserves analysis as a structural type and as a new major component of the urban scene. The horse and carriage gave us the mews, the steam engine the railway terminal—great black smudges on every town map—the motor car the parking structure. Connected as this must become to the three dimensional routes of pedestrian and vehicular movement, its effect on the city may yet be greater than that of either of its traffic predecessors. We neglect it at our peril.

mirror, the other an opaque wall. The open decks of multi-storey parking provide a necessary visual contrast to this solidity. Their open skeletal sculpture requires to be exploited consciously so that they both are, and appear to be, the termini of the open channels of the city that are used for movement.

A beginning has been made in such designs as the parking terraces of ZCMI in Salt Lake City, 14, or San Francisco's 'Downtown Center,' 5, or Chicago's No. 1 City Garage, page 124. The last also illustrates the visual drama that can be glimpsed from these upper levels, in this case a view of Wacker Drive and the Chicago Tribune Building in the far distance. Parking structures are part of the design of the city in terms of its section, and within them pedestrians are already at upper levels. They should often remain there and be taken through on high level links to shopping floors, raised pedestrian walkways, upper office floors. Such links to other uses are preferably done laterally rather than vertically so as to avoid complicated and thus expensive solutions of structure, services and fire separation. Horizontal connections



Restaurant and Coffee Bar in Chelsea Conran Design Group (chief assistant, A. Eldridge)



The ground floor restaurant and basement coffee bar both occupy one deep and fairly narrow bay of a nineteenth-century block in King's Road, Chelsea, and have been fitted out in a manner that demonstrates how almost Functional-Tradition sim-



plicity can still produce an interior that is suitably smart for such a purpose in such an area.

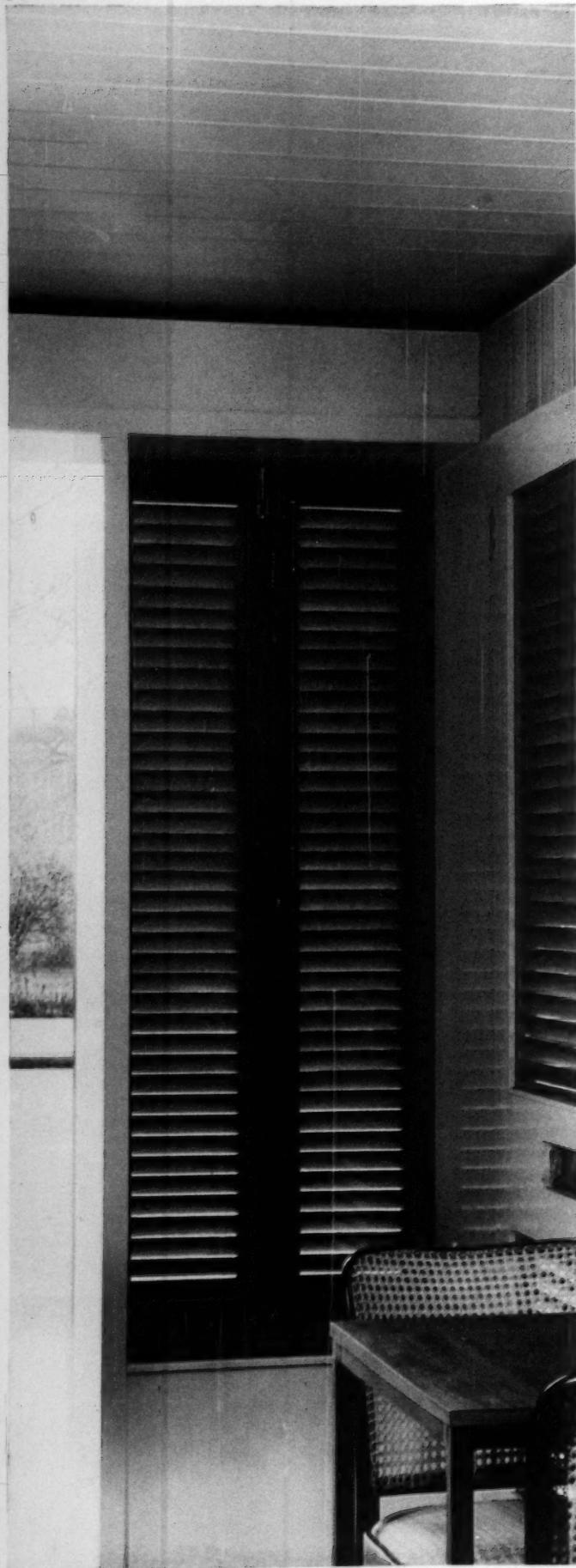
1, counter at rear of the restaurant, fronted in deal tongued-and-grooved boarding, with two-inch deal top. The rear wall is fairface brick, and what appear to be pizza-oven doors are serving hatches from the kitchen. 2, banquette seating, with over-head framing dividing the main restaurant space into four-seat booths. The tables have oiled teak tops and black enamelled square tube legs. The bent-wood chairs have ebonized black frames.

3, general view of the basement coffee

ID

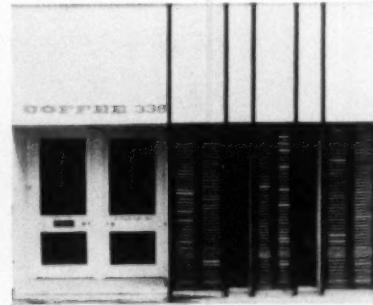
*a monthly review
of interior design*

5



bar, with stairs direct from the street door descending over the serving area. 4, the street front, showing alternating clear and shuttered windows and the

4



entrance—the left hand door serves the upstairs flat, the right hand one the basement coffee bar, while the entrance to the restaurant is in the return wall on its right, and is seen from inside in 5. The shutters are of varnished mahogany. Each louvred shutter is glass-backed, and can be opened inwards in fine weather, while the clear glass panels are fixed. Both wall and ceiling are in tongued-and-grooved pine boards, the ceiling being painted white.

6, detail of one of the uprights of the fixed seating in the restaurant—the banquettes have plain wooden backs, but the seats are upholstered in reversible foam rubber cushions, covered in orange horse-blanket check. 7, in the basement; while the general detailing and finishes are similar to those on the floor above, the atmosphere is completely different, being dominated by the lighting and its sources. Most of the illumination comes from the mechanical appliances, such as the juke box and the espresso-coffee machine, but a variable amount of light filters down the stairs from the street, and a constant band of lighting is provided at low level from behind the seats—see 10, opposite.

7



6

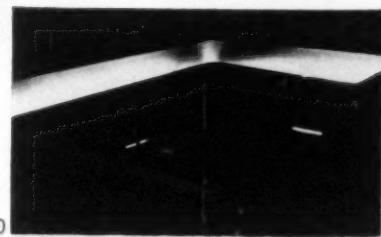




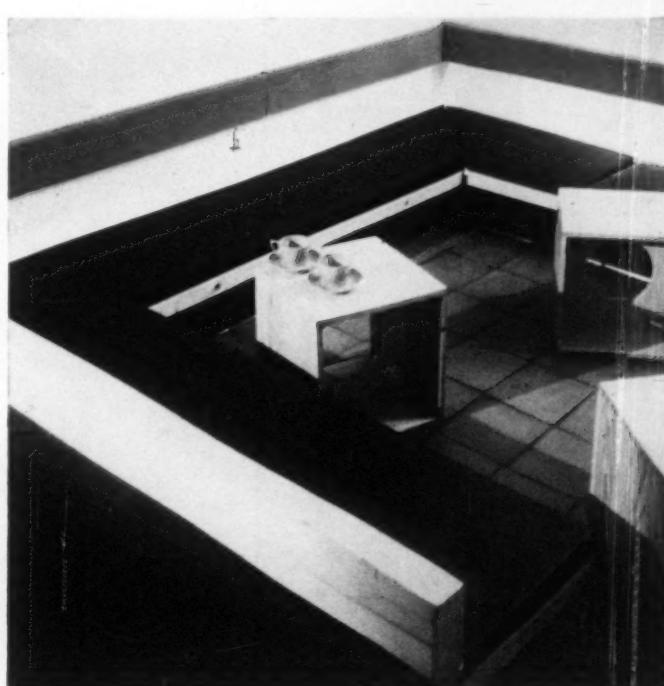
**Restaurant and
Coffee Bar in
Chelsea**

8, relief lettering on the wall above the basement stairs, forming a sign-board, visible only when the street-door is open, for the coffee-bar.

9, corner of the coffee-bar, with quarry-tiled floor, low level seating upholstered in black leather, and general-purpose pine boxes which are used as tables, seats, step-ladders, etc. The level of illumination required for photography is far higher than that normally obtained in this area, 7, opposite, and 10, below, being taken without added illumination.



10

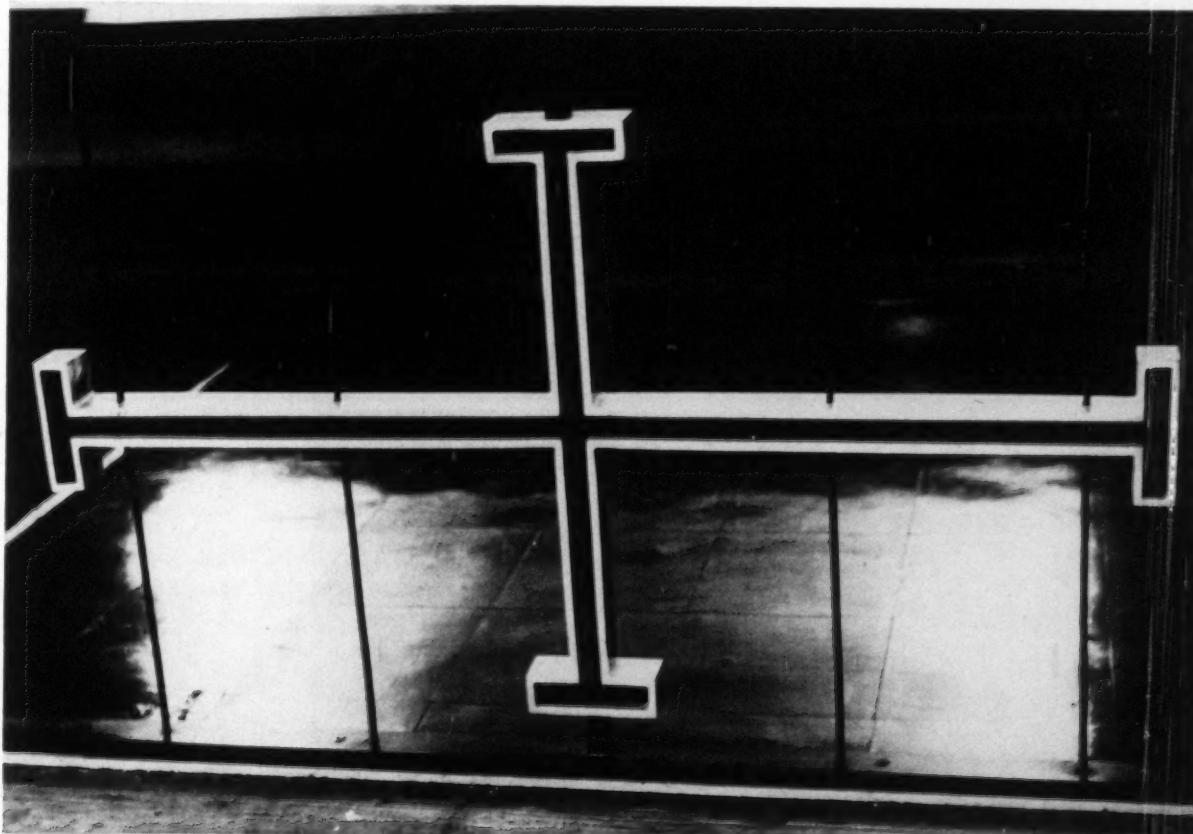


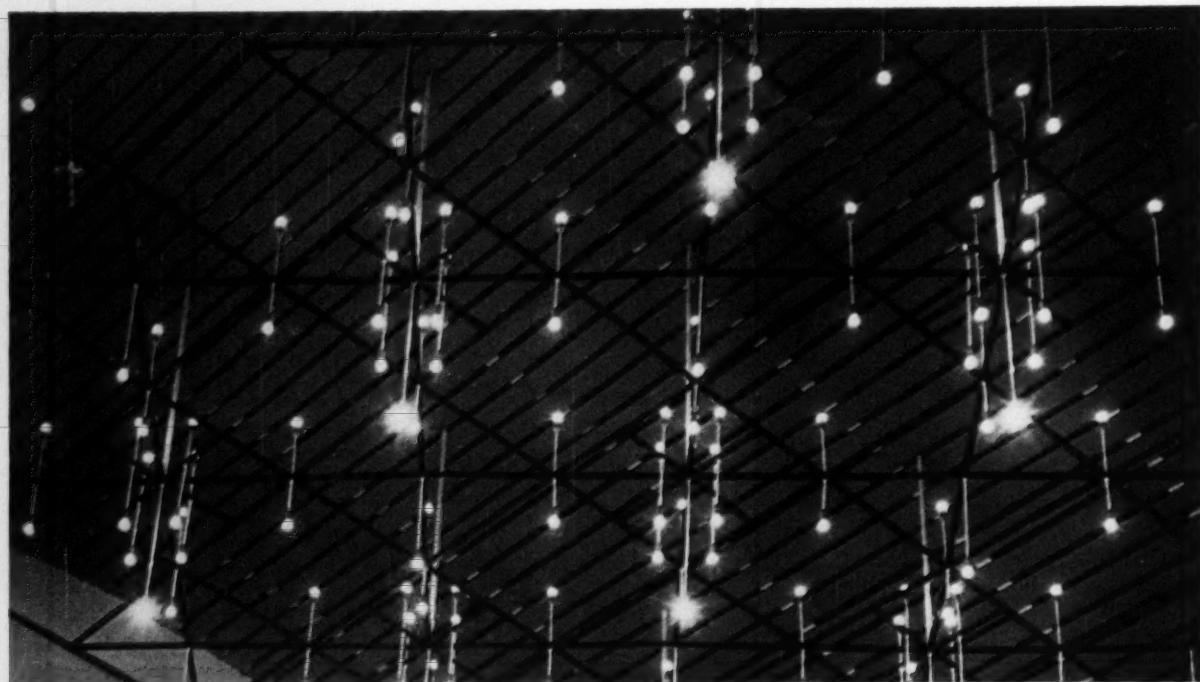
Church of Our Lady of Lourdes: Leeds architects: Walker and Biggin

1, enamelled steel cross in the balustrading of the communion rail of the Roman Catholic church of Our

Lady of Lourdes, Cardigan Road, Leeds—an ingenious transformation of the spatial qualities and atmosphere

of a previously un-church-like building, described and illustrated further on the next two pages.

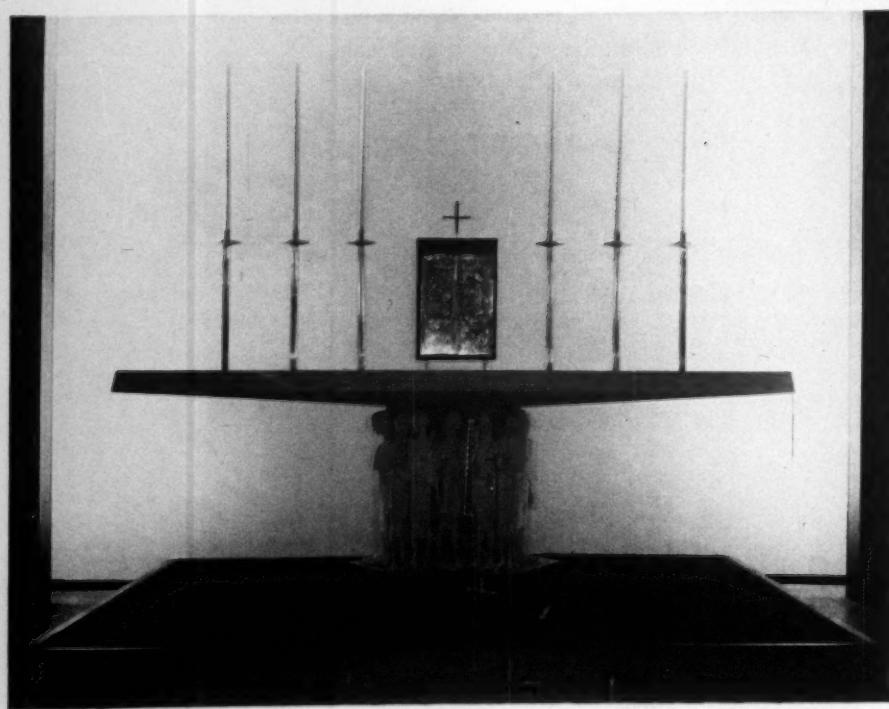




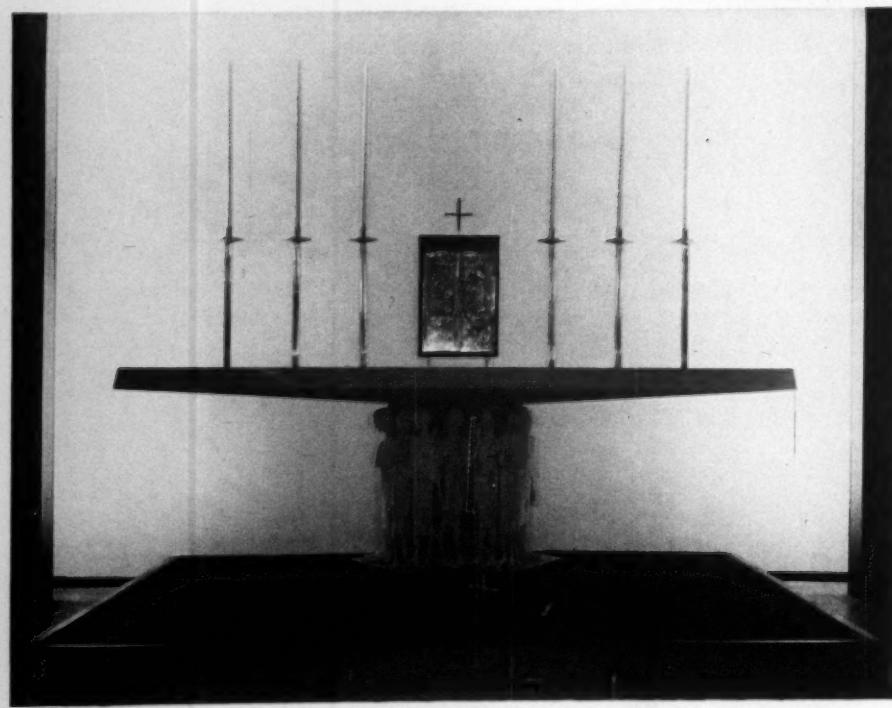
2



3



4

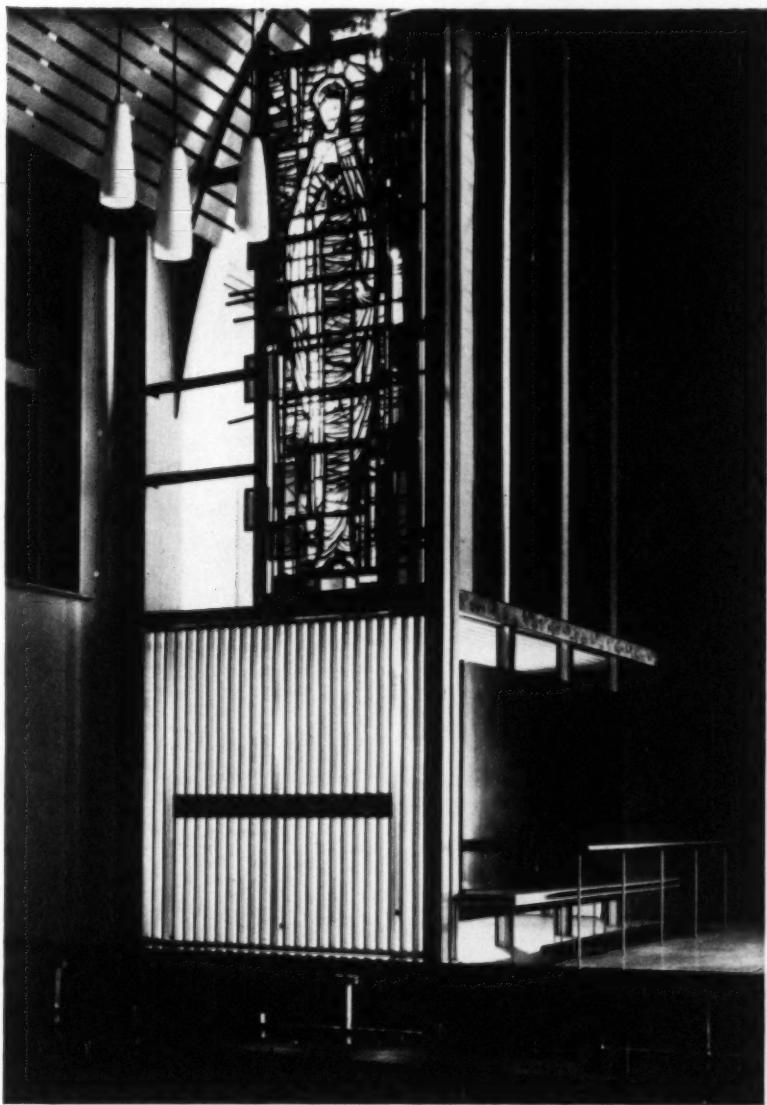


Church in Leeds

2, the space-frame baldachino over the high altar, seen against the boarding of the vault. The steel tube frame, with its array of lights, forming a kind of contemporary equivalent of the star-strewn blue-painted vaults of earlier churches, is part of a general conversion to artificial illumination at this end of the church, replacing a single window behind the high altar which produced painful glare.

3, the dummy vault of four-inch boards which conceals the roof-trusses of the original structure, designed in the first place as a social hall. Originally, the existing stage had been made into an approximate sanctuary, but this was removed in the process of conversion, and the height of the sanctuary floor reduced to a more normal level.

4, the altar, placed on a free-standing dais in front of a neutral back wall which is illuminated from the sides, stands on a sculptured base by Jill

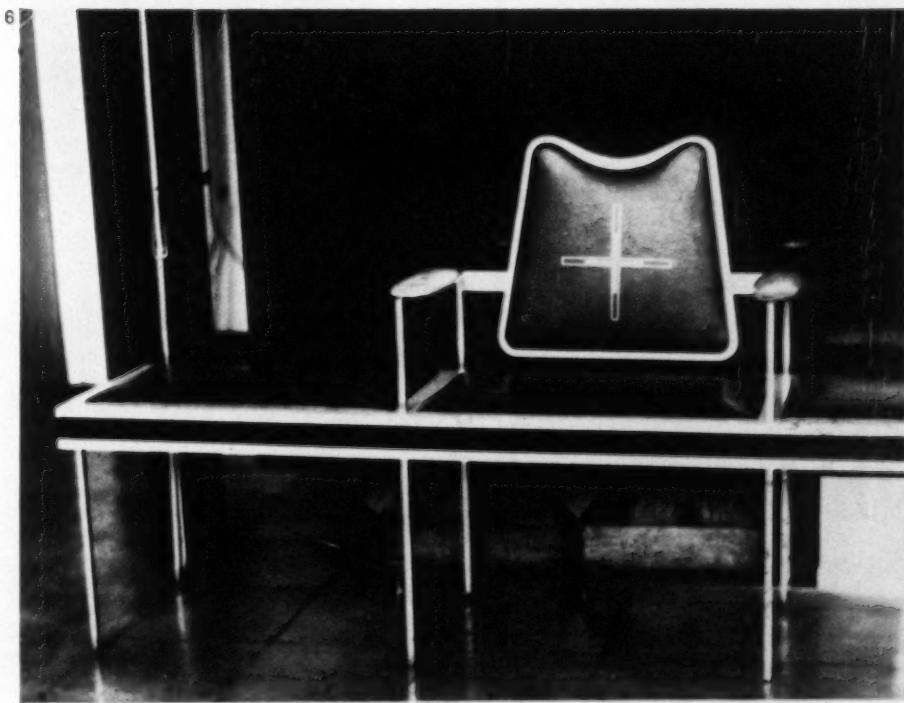


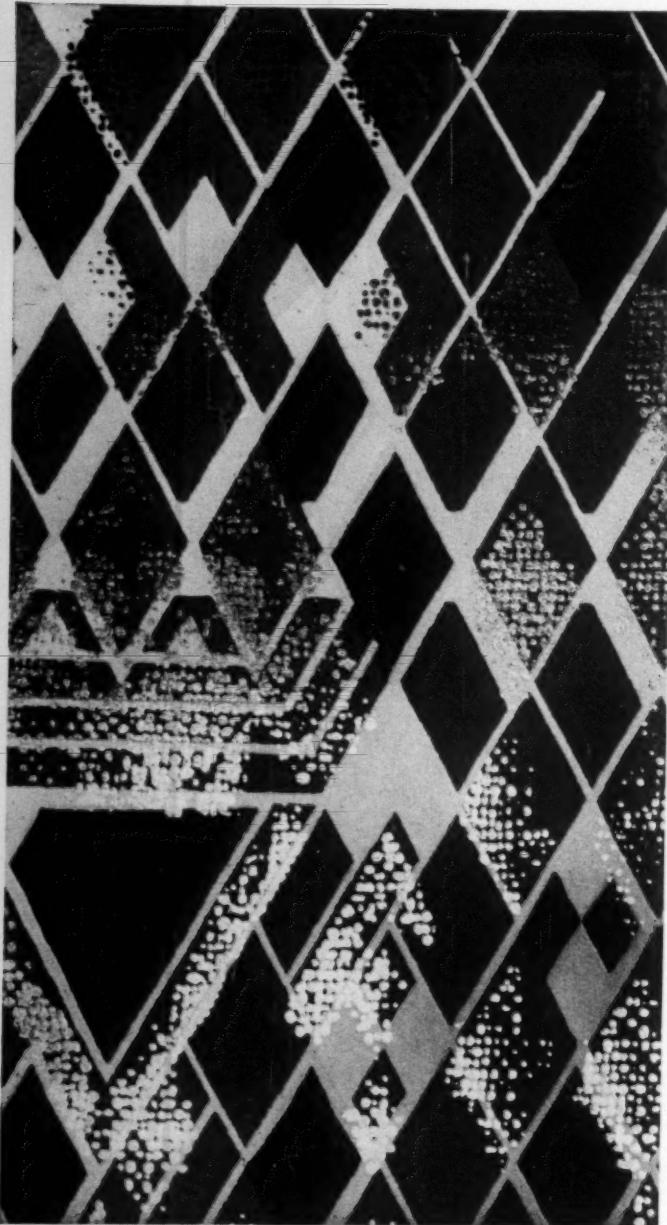
5

Messenger, representing the twelve apostles.

5, the main ingenuity of the conversion lies in the creation of a convincing sanctuary, and a stained-glass atmosphere in spite of an unsuitable structure. Although the new sanctuary extends, in fact, the full width of the church, it has been visually narrowed by a row of stanchions carrying the backs of the choir-stalls. At right angles and above, spanning the space between the stanchions and the outside wall, are screens of metal mesh. The front one on either side carries a three-dimensional stained glass window by Roy Lewis. The whole system of screens and window, lit from behind, creates a very rich illumination.

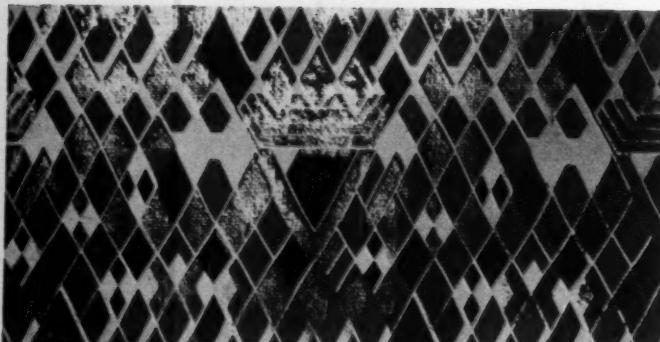
6, the bishop's chair, in stainless steel and purple leather, with polished macassar ebony panel behind it. The same repertoire of materials is used for all the sanctuary furniture.





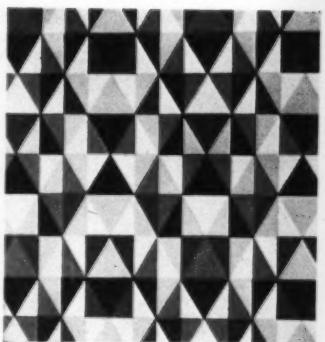
DR

design review

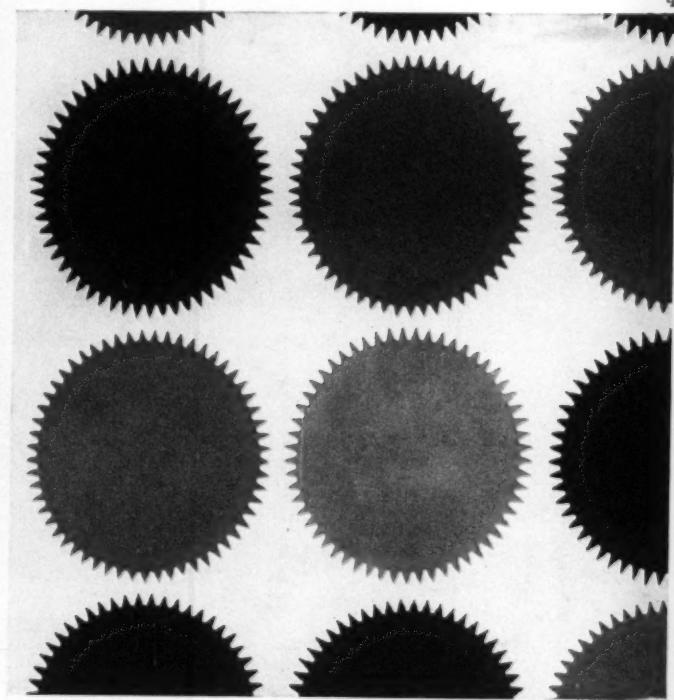


Architects as wallpaper designers

Amid the flood of uninspiring US wallpaper designs coming on to the British market at present, there is little to satisfy those who do not share the tastes of the home feature editors of the American women's magazines—currently lagging well behind their British counterparts in matters of interior decoration. However, for those who are prepared to pay the price—up to sixty-six shillings a piece—Sanderson's new range of hand-printed designs includes a number of designs of visually higher quality, and of a character that is a challenge to the interior designer. The four most striking designs are the work of two archi-



3



4

tects; Gio Ponti and the late Frank Lloyd Wright.

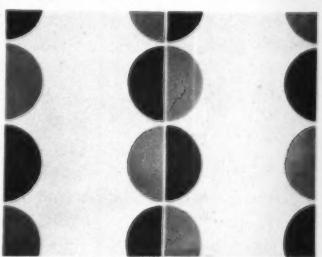
1, detail (just under full size) from Design 705, which might easily have been a Jazz-modern museum-piece had it come from a lesser hand than Wright's.

2, a larger sampling from the same design—the lustres are dots of gold on warmer coloured versions of the pattern, silver on the more blue-grey.

3, Design 706, a version of an earlier fabric design by Wright, more easily adaptable to conventional ideas of 'contemporary.'

4, detail (one-third full size) from Piumino by Gio Ponti.

5, Eclipse, also by Ponti, a design on the same scale as Piumino, with the same kind of emphatic character, and therefore equally difficult to use well, though equally rewarding when an effective use for its overscale quality has been found.



5

Patience Gray

A VOCABULARY OF PLANTS

This article introduces a series of illustrated notes on herbaceous perennial and climbing plants, chosen by Patience Gray as being useful to architects who want to enhance, and achieve some control over, the immediate setting of their buildings. The plant she illustrates and writes about this month is the Heracleum (or giant parsnip); next month it will be the Acanthus. Other plants will follow.

Architects surrender their work to other people to use or misuse. Too often their intentions are misunderstood, outside as well as inside. Outside, the attempt is often made to 'humanize' new buildings by establishing a type of lay-out and a kind of gardening utterly unsuited to the nature of the architecture.

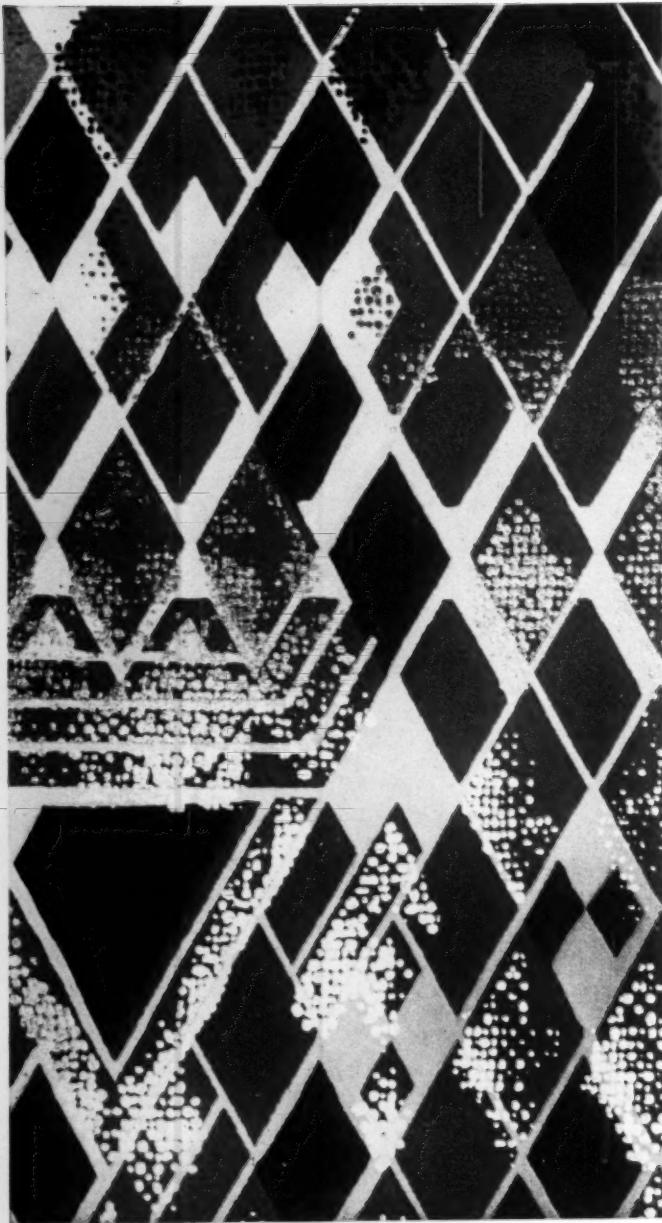
Even when there is only space for minimum planting—the architect supplying outside plant boxes or plant containers—they are instantly used to create a riot of colour. Who has not seen sentinel tulips, grotesque gladioli, fat-faced dahlias clashing and flashing against new brick or exposed concrete, or stalking in livid ranks along the approaches? This is the visual equivalent of a Salvation Army admonishment with timpani and brass.

It is enough to raise that fiery old gardener William Robinson from the dead. In his day the flower gardeners were 'meanly trying to rival the tile or wallpaper men.' His violent vituperations against tasteless excesses—carpet bedding, 'this false and hideous art,' and the deformities of rockwork—produced a gardening revolution in Victorian days. Today his feeling for plant form and natural gardening is quietly reflected

in the sensitive planting of a small group of landscape architects, a fistful of architects and the Parks Department of the LCC. But these natural gardeners who are creating new patterns of cultivation appropriate to new architecture are too few to counteract effectively the shock-tactic planting of the floraphiles which crashes so discordantly against the outraged walls of many new buildings.

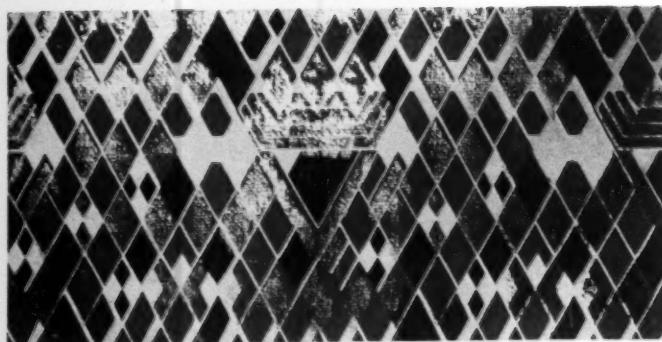
Architects are hamstrung by circumstances. They are fortunate if they can preserve or plant a tree of some size in proximity to a building, establish an appropriate pattern of planting on a terrace, plant a windbreak, or control the shape of planting areas or the main approaches.

Sometimes they can transfer to the client's mind an idea of the form the surroundings should take. Many provide the principal incidents and outlines in a drawing but without specifying the type of tree, the particular shrub or the kind of herbaceous growth the building needs. Usually they leave a desert at the conclusion of building operations and return to find colourful triviality, a random geometry of flowerbeds, crazy paving and rock excretions already established.



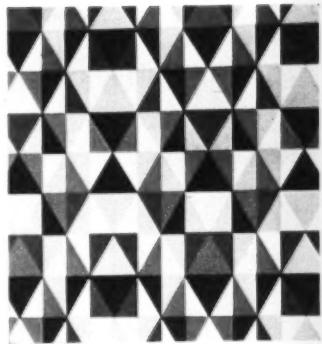
DR

design review

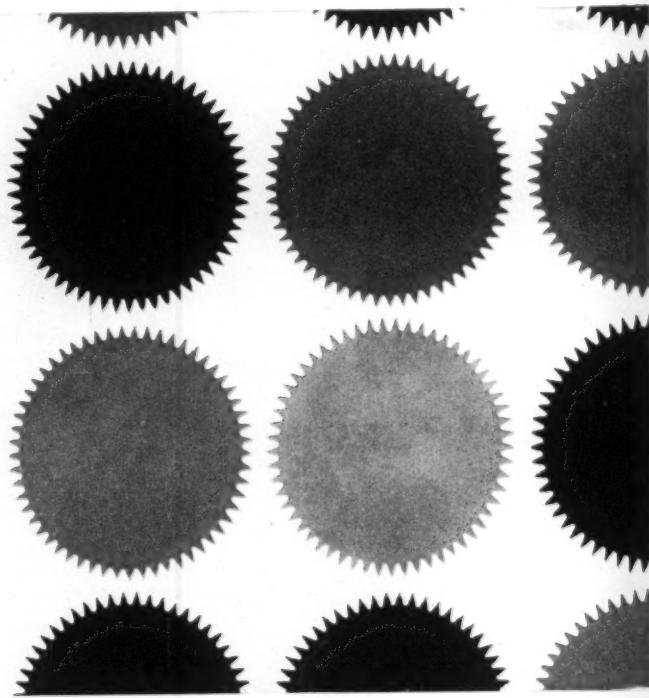


Architects as wallpaper designers

Amid the flood of uninspiring US wallpaper designs coming on to the British market at present, there is little to satisfy those who do not share the tastes of the home feature editors of the American women's magazines—currently lagging well behind their British counterparts in matters of interior decoration. However, for those who are prepared to pay the price—up to sixty-six shillings a piece—Sanderson's new range of hand-printed designs includes a number of designs of visually higher quality, and of a character that is a challenge to the interior designer. The four most striking designs are the work of two archi-



3



4

tects; Gio Ponti and the late Frank Lloyd Wright.

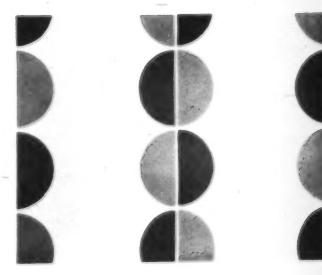
1, detail (just under full size) from Design 705, which might easily have been a Jazz-modern museum-piece had it come from a lesser hand than Wright's.

2, a larger sampling from the same design—the lustres are dots of gold on warmer coloured versions of the pattern, silver on the more blue-grey.

3, Design 706, a version of an earlier fabric design by Wright, more easily adaptable to conventional ideas of 'contemporary.'

4, detail (one-third full size) from Piumino by Gio Ponti.

5, Eclipse, also by Ponti, a design on the same scale as Piumino, with the same kind of emphatic character, and therefore equally difficult to use well, though equally rewarding when an effective use for its overscale quality has been found.



5

Patience Gray

A VOCABULARY OF PLANTS

This article introduces a series of illustrated notes on herbaceous perennial and climbing plants, chosen by Patience Gray as being useful to architects who want to enhance, and achieve some control over, the immediate setting of their buildings. The plant she illustrates and writes about this month is the Heracleum (or giant parsnip); next month it will be the Acanthus. Other plants will follow.

Architects surrender their work to other people to use or misuse. Too often their intentions are misunderstood, outside as well as inside. Outside, the attempt is often made to 'humanize' new buildings by establishing a type of lay-out and a kind of gardening utterly unsuited to the nature of the architecture.

Even when there is only space for minimum planting—the architect supplying outside plant boxes or plant containers—they are instantly used to create a riot of colour. Who has not seen sentinel tulips, grotesque gladioli, fat-faced dahlias clashing and flashing against new brick or exposed concrete, or stalking in livid ranks along the approaches? This is the visual equivalent of a Salvation Army admonishment with timpani and brass.

It is enough to raise that fiery old gardener William Robinson from the dead. In his day the flower gardeners were 'meanly trying to rival the tile or wallpaper men.' His violent vituperations against tasteless excesses—carpet bedding, 'this false and hideous art,' and the deformities of rockwork—produced a gardening revolution in Victorian days. Today his feeling for plant form and natural gardening is quietly reflected

in the sensitive planting of a small group of landscape architects, a fistful of architects and the Parks Department of the LCC. But these natural gardeners who are creating new patterns of cultivation appropriate to new architecture are too few to counteract effectively the shock-tactic planting of the floraphiles which crashes so discordantly against the outraged walls of many new buildings.

Architects are hamstrung by circumstances. They are fortunate if they can preserve or plant a tree of some size in proximity to a building, establish an appropriate pattern of planting on a terrace, plant a windbreak, or control the shape of planting areas or the main approaches.

Sometimes they can transfer to the client's mind an idea of the form the surroundings should take. Many provide the principal incidents and outlines in a drawing but without specifying the type of tree, the particular shrub or the kind of herbaceous growth the building needs. Usually they leave a desert at the conclusion of building operations and return to find colourful triviality, a random geometry of flowerbeds, crazy paving and rock excretions already established.

Yet the immediate surroundings of a building are the vital concern of the architect. Arne Jacobsen has demonstrated this better than anyone. His housing projects are planted, screened, one might almost say clothed, with vegetation. In his courtyards he regulates the planting spaces and pushes in the appropriate plants. He also furnishes the crevices between the paving slabs. Powell and Moya in their Swindon hospital courtyards have taken a leaf or two out of Jacobsen's book.

No architect should be satisfied with a two-dimensional approach, walking out at the lay-out stage. It is the *vegetable enrichment* related to paved areas and expanses of grass which creates a new pattern and settles the building in the landscape. Some types of vegetation actively stimulate appreciation of the structure and surface of the building by means of textural contrast, plant form, light-catching leaf surface, plant tracery. One fully grasps the immutable qualities of brick, concrete, wood or plate-glass set against the variations and vagaries of plant growth.

Too many architects attempt a permanent solution on the die-hard principle. We will install a few evergreen shrubs, they say, deposit an enormous pebble on a terrace, or fill some concrete boxes with Welsh marble quartz and silver sand. They cannot, they feel, afford to accept the hazards of growth renewed, nor have they the time to examine the performance of herbaceous plants, which astonish in June and decay in December. Maintenance is their bugbear. This is why planting clichés flourish, soot darkens the evergreens, and sub-Noguchi's ship tons of rock, basalt, marble chips and pebbles to silt up the office courtyards of W.1.

There is a world of difference between the varied assortment of inert stones, pebbles, rocks, ground-pebble marble and draught-seared planting in the garden of a building in Berners Street (which to me is a skit on landscape architecture executed in deadly earnest and at colossal expense) and the thoughtful and selected elements of stone, pebble and planting which make a distinct and pleasing pattern in the little 'jardin concret' in front of Weeks Hall, South Kensington (Richard Sheppard, Robson and Partners). Mr. Ryder, of Rassall's Ltd., Earls Court Road, was the plant consultant for this garden—stonecrops, houseleeks, dwarf lavender, practically imperishable, *Bergenia* (*Megasea*) leather-leaved, to mention two or three examples, were used on this minimum maintenance job. Even so it needs some gardener's attention, or did when I passed by recently.

Sometimes it is possible to lay a groundwork of foliage pattern before the take-over people have time to embark on their colour antics. The plants included in this series have been chosen for their form, foliage and textural interest. They represent merely one element in the composition of appropriate surroundings for modern architecture. The idea could be extended to cover lay-out, trees, shrubs and material for hedges which are, of course, the basic props of garden architecture.

Hillier & Son, Winchester, Hants, and Maurice Prichard & Sons, Riverslea Nurseries, Christchurch, Hants, are two reliable specialists in hardy herbaceous perennials.



The magnificent weed *Heracleum*, the Caucasian *H. mantegazzianum* in its finest form (see cover), has a splendour seldom found in cultivated plants. Plant edifices attaining a height of eight to ten feet in May, crowned with gigantic white-flowered cart-wheels, might seem to provide the perfect contrast in fine-cut leaf form and pyramidal growth to the severities of modern architecture.

But the plant has a major disadvantage. Leaves begin to appear early in March, growth is rapid, the leaves attaining three or four feet in length, but once the plant has flowered in May the foliage yellows and begins to wither. By full summer the edifice has acquired a dried and spectral aspect, and has to be cut down. For this reason, and because like all weeds it seeds lavishly, it has been normally confined to the woodland and the wild garden, to river banks and the edges of ponds (its natural habitat).

My excuse for planting it in the immediate vicinity of an Architects' Co-Partnership house (1 on the facing page) was twofold. The bank on which it is sited sloped steeply away from the house, minimizing the view of the plant in decline, 2, and the soil was unpromising solid clay brought to the surface by building operations, in which the thick roots of the umbelliferous weed could flourish.

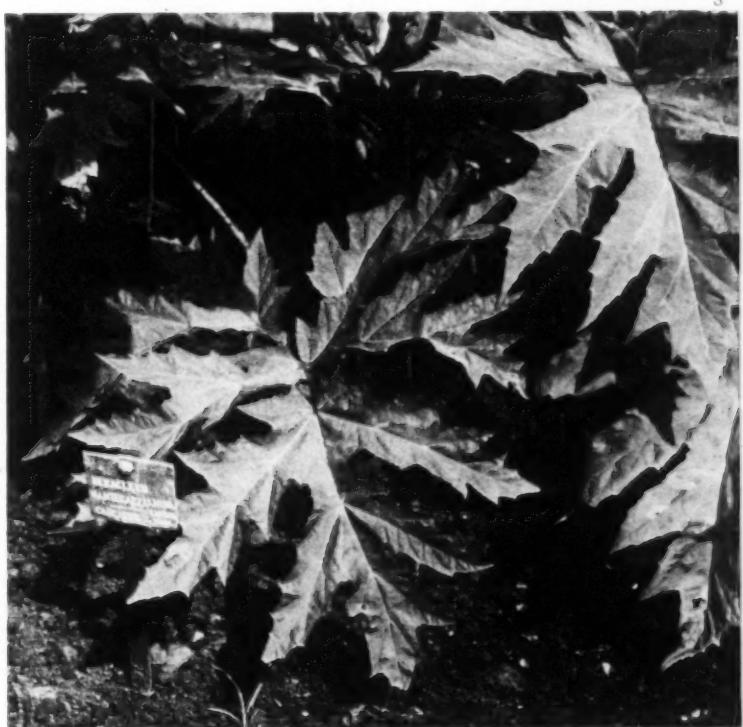
Peter Shepheard, chief protagonist of wild gardening to-day, planted specimens in the turf recently near the road frontage of Kinnerton School in St. John's Wood. In May one sees the enormous paniced flowers looming out of the neon-lit night. One can also see another form, *H. giganteum*, on the little hill crowned with Sir William Chambers's Doric temple at Kew, growing in daffodil-planted grass which is scythed, not mown; also growing wild along the banks of the Regent's Park Canal.

Don't plant in ordinary flower-beds; the scale and coarseness, 3, is out of key with garden plants. These weeds should be treated as summer apparitions growing out of the rough, where they can decently decay. In John Aldridge's woodland garden at Great Bardfield they stand, in late summer, like magnificent specimens among the trees, in boggy ground. They are easily increased by division of the roots in autumn or spring, and make rapid growth from seed.



HERACLEUM OR GIANT PARSNIP

1. *Heracleum mantegazzianum* on a steeply sloping bank in front of a house in Hampstead designed by the Architects' Co-Partnership. 2, a couple of specimens of the plant photographed when in decline and illustrating Patience Gray's comments on its inadequacy as vegetable enrichment late in the season. 3, close-up of the leaves, showing their scale and texture.



Yet the immediate surroundings of a building are the vital concern of the architect. Arne Jacobsen has demonstrated this better than anyone. His housing projects are planted, screened, one might almost say clothed, with vegetation. In his courtyards he regulates the planting spaces and pushes in the appropriate plants. He also furnishes the crevices between the paving slabs. Powell and Moya in their Swindon hospital courtyards have taken a leaf or two out of Jacobsen's book.

No architect should be satisfied with a two-dimensional approach, walking out at the lay-out stage. It is the *vegetable enrichment* related to paved areas and expanses of grass which creates a new pattern and settles the building in the landscape. Some types of vegetation actively stimulate appreciation of the structure and surface of the building by means of textural contrast, plant form, light-catching leaf surface, plant tracery. One fully grasps the immutable qualities of brick, concrete, wood or plate-glass set against the variations and vagaries of plant growth.

Too many architects attempt a permanent solution on the die-hard principle. We will install a few evergreen shrubs, they say, deposit an enormous pebble on a terrace, or fill some concrete boxes with Welsh marble quartz and silver sand. They cannot, they feel, afford to accept the hazards of growth renewed, nor have they the time to examine the performance of herbaceous plants, which astonish in June and decay in December. Maintenance is their bugbear. This is why planting clichés flourish, soot darkens the evergreens, and sub-Noguchi ships tons of rock, basalt, marble chips and pebbles to silt up the office courtyards of W.I.

There is a world of difference between the varied assortment of inert stones, pebbles, rocks, ground-pebble marble and draught-seared planting in the garden of a building in Berners Street (which to me is a skit on landscape architecture executed in deadly earnest and at colossal expense) and the thoughtful and selected elements of stone, pebble and planting which make a distinct and pleasing pattern in the little 'jardin concret' in front of Weeks Hall, South Kensington (Richard Sheppard, Robson and Partners). Mr. Ryder, of Rassall's Ltd., Earls Court Road, was the plant consultant for this garden—stonecrops, houseleeks, dwarf lavender, practically imperishable, *Bergenia* (*Megasea*) leather-leaved, to mention two or three examples, were used on this minimum maintenance job. Even so it needs some gardener's attention, or did when I passed by recently.

Sometimes it is possible to lay a groundwork of foliage pattern before the take-over people have time to embark on their colour antics. The plants included in this series have been chosen for their form, foliage and textural interest. They represent merely one element in the composition of appropriate surroundings for modern architecture. The idea could be extended to cover lay-out, trees, shrubs and material for hedges which are, of course, the basic props of garden architecture.

Hillier & Son, Winchester, Hants, and Maurice Prichard & Sons, Riverslea Nurseries, Christchurch, Hants, are two reliable specialists in hardy herbaceous perennials.



The magnificent weed *Heracleum*, the Caucasian *H. mantegazzianum* in its finest form (see cover), has a splendour seldom found in cultivated plants. Plant edifices attaining a height of eight to ten feet in May, crowned with gigantic white-flowered cart-wheels, might seem to provide the perfect contrast in fine-cut leaf form and pyramidal growth to the severities of modern architecture.

But the plant has a major disadvantage. Leaves begin to appear early in March, growth is rapid, the leaves attaining three or four feet in length, but once the plant has flowered in May the foliage yellows and begins to wither. By full summer the edifice has acquired a dried and spectral aspect, and has to be cut down. For this reason, and because like all weeds it seeds lavishly, it has been normally confined to the woodland and the wild garden, to river banks and the edges of ponds (its natural habitat).

My excuse for planting it in the immediate vicinity of an Architects' Co-Partnership house (1 on the facing page) was twofold. The bank on which it is sited sloped steeply away from the house, minimizing the view of the plant in decline, 2, and the soil was unpromising solid clay brought to the surface by building operations, in which the thick roots of the umbelliferous weed could flourish.

Peter Shepheard, chief protagonist of wild gardening to-day, planted specimens in the turf recently near the road frontage of Kinnerton School in St. John's Wood. In May one sees the enormous panicled flowers looming out of the neon-lit night. One can also see another form, *H. giganteum*, on the little hill crowned with Sir William Chambers's Doric temple at Kew, growing in daffodil-planted grass which is scythed, not mown; also growing wild along the banks of the Regent's Park Canal.

Don't plant in ordinary flower-beds; the scale and coarseness, 3, is out of key with garden plants. These weeds should be treated as summer apparitions growing out of the rough, where they can decently decay. In John Aldridge's woodland garden at Great Bardfield they stand, in late summer, like magnificent spectres among the trees, in boggy ground. They are easily increased by division of the roots in autumn or spring, and make rapid growth from seed.

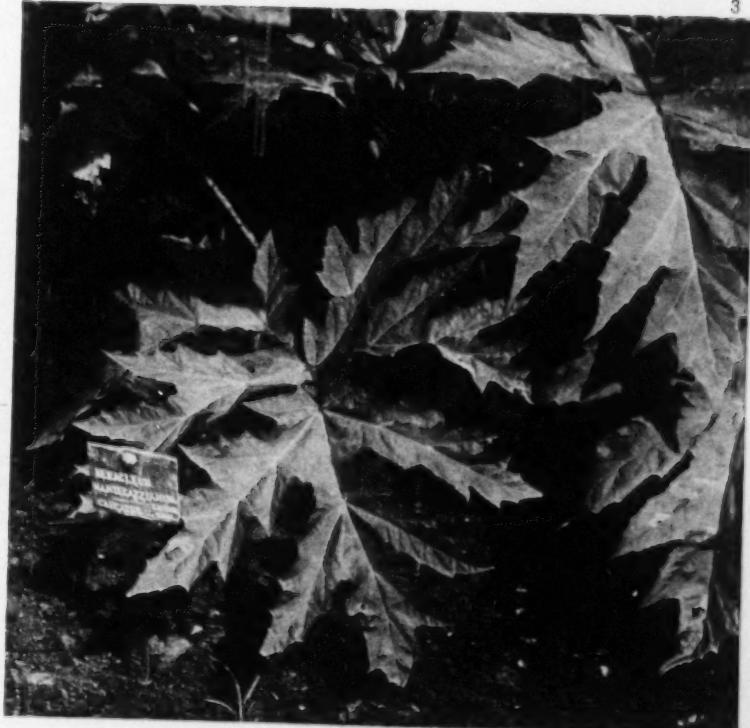


HERACLEUM OR GIANT PARSNIP

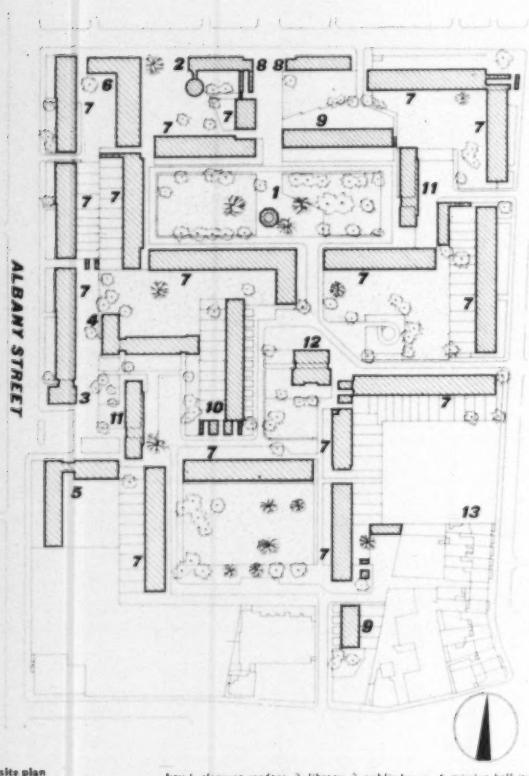
1. *Heracleum mantegazzianum* on a steeply sloping bank in front of a house in Hampstead designed by the Architects' Co-Partnership. 2, a couple of specimens of the plant photographed when in decline and illustrating Patience Gray's comments on its inadequacy as vegetable enrichment late in the season. 3, close-up of the leaves, showing their scale and texture.



2



3



site plan

key 1. clarence gardens. 2. library. 3. public house. 4. mission hall (two-storey flats behind). 5. police station. 6. shops with three-storey flats over. 7. four-storey maisonettes. 8. three-storey flats over library. 9. three-storey houses. 10. two-storey houses. 11. eleven-storey flats. 12. nineteen-storey flats. 13. nursery school.

HOUSING, REGENT'S PARK, LONDON

ARCHITECTS: EDWARD ARMSTRONG AND FREDERICK MACMANUS

This is the first of several areas for which this firm of architects is responsible to be completed in the St. Pancras borough council's Regent's Park redevelopment scheme. Each area is self-contained, and includes shops, a branch library, public houses and accommodation for offices and light industry. The housing layout consists mostly of four-storey terraces surrounding a sequence of linked squares, with a few point blocks (eleven and nineteen storeys). The first of these, known as 'The Combe,' is illustrated here. It is the block numbered 12 in the site plan above. It is sited on the north side of the new Munster Square, which occupies approximately the same position as the Regency square of the same name, badly damaged in the war.

The 10-acre site accommodates 618 families in houses, flats and maisonettes. The whole scheme, of which this is the first section, was fully described in the AR Preview issue, January 1956. It is bypassed by main traffic, only essential wheeled traffic being allowed to use the paved areas between buildings on routes defined by bollards, thus preserving pedestrian priority.

The high block has a reinforced concrete frame and cladding of Uxbridge flint bricks in a light colour. The lower blocks are of cross-wall construction, with reinforced concrete roofs and ground and second floors, the intermediate floors inside the maisonettes being of timber. Facing brickwork is Uxbridge flints in a dark purple colour. Windows are wood, painted white, with spandrel panels of grey porcelain enamelled steel.

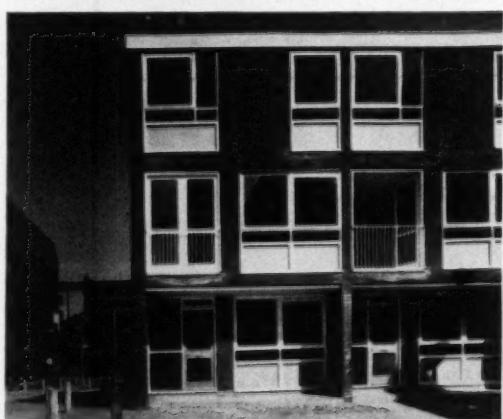
Borough engineer, C. S. Bainbridge, M.I.C.E., F.R.I.C.S., M.I.M.U.E.; housing manager, A. W. Davey, A.I.A.S., F.I.H.S., M.R.S.H.

1, the point block from the south, with four-storey maisonettes on either side.
 2, front elevation of three-storey houses.

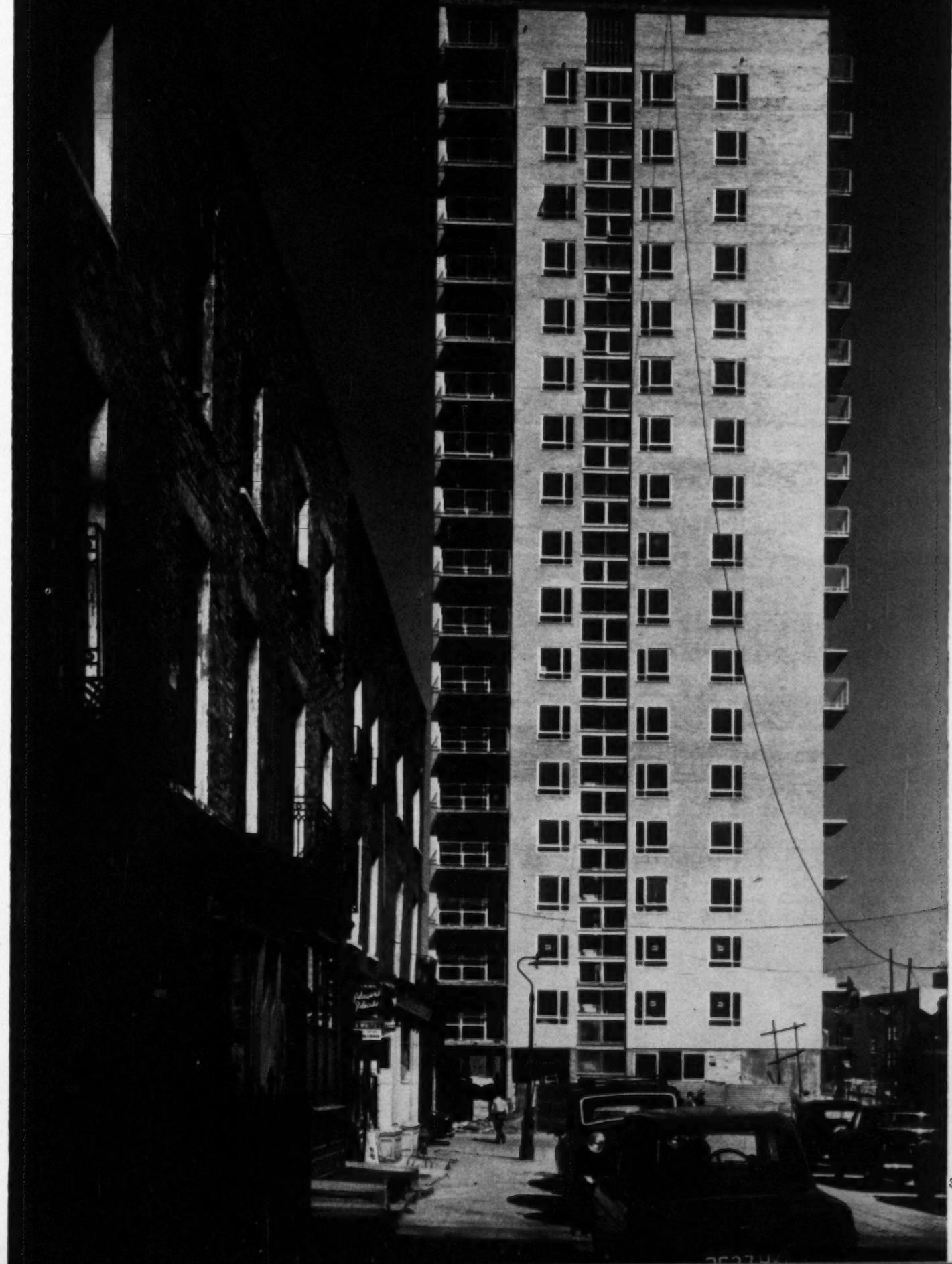
3 (opposite page), close-up of the point block from the east.



1



2



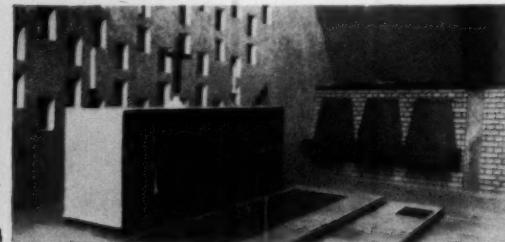
CHURCH AT HATFIELD

ARCHITECTS: LIONEL BRETT,
KENNETH BOYD AND
PETER BOSANQUET
(partner in charge, Peter Bosanquet)

A church for a congregation of 200 and a choir of 50 (in a gallery over the narthex). It is orientated with the sanctuary at the west end because of the sloping ground, because access was from a road to the east of the site, because the best view of the building, the climax of which is the gable wall at the sanctuary end, is from the west and because it was desired to have sunlight in the sanctuary during morning services. A few seats south of the altar, which have an entrance adjoining, allow this part of the building to be used as an independent chapel.

The nave has mainly indirect daylighting, giving a climax of lighting through the sanctuary windows at the altar. Altar, pulpit, font and lectern are more closely grouped than usual, with the intention of symbolizing the unity of the liturgy. An 80 ft. free-standing campanile will be built later between the church and the neighbouring community centre.

Timber roof-trusses with exposed stainless steel connections are supported on reinforced concrete columns and on the gable walls, which are also of concrete with facing brickwork used as permanent shuttering (internal shuttering is concrete blocks). Their curve stiffens them against wind pressure. The roof pitch increases towards the west,

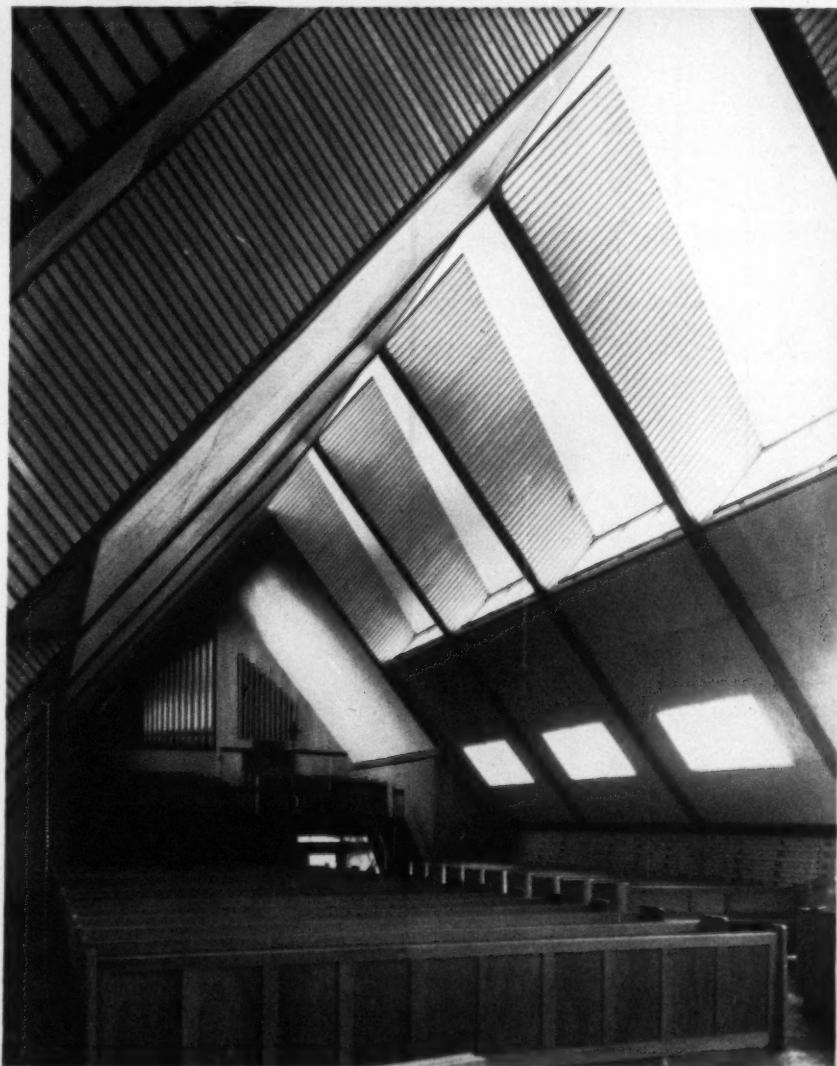
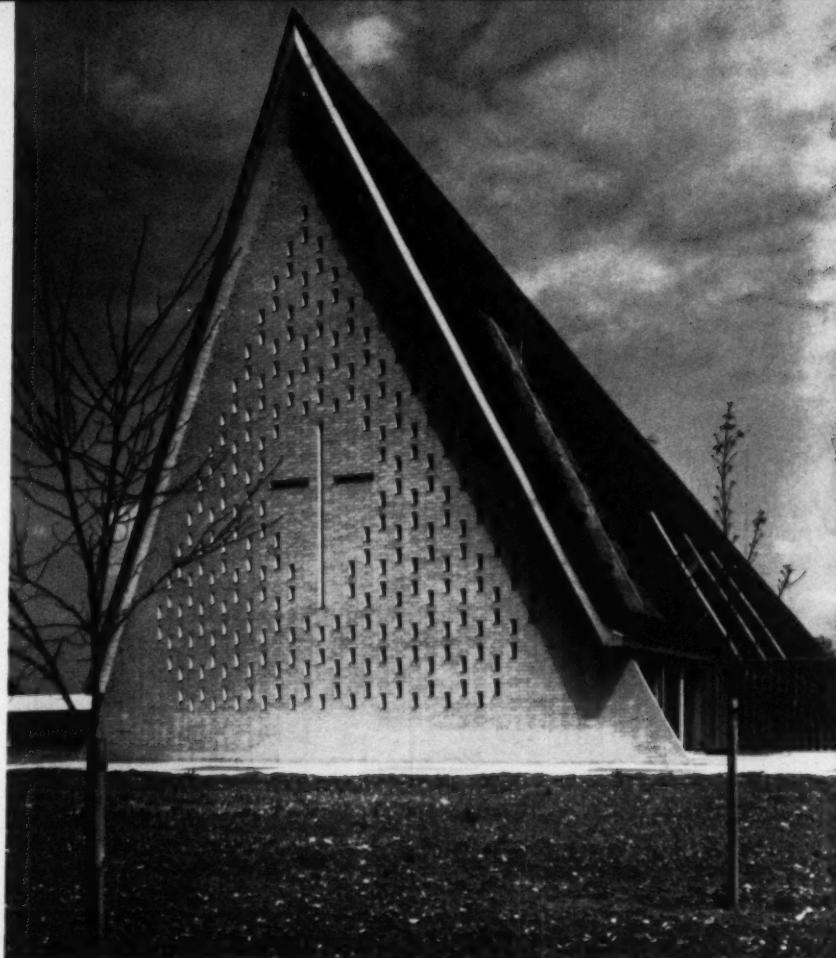
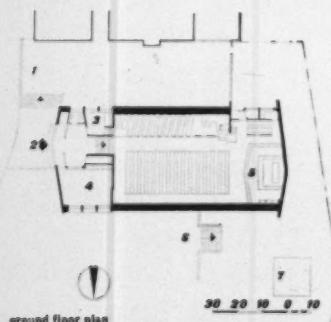


4, the altar and sedilia. 5, the sanctuary wall from the west. 6, looking towards the choir gallery. The organ is built into the gallery wall.

giving a sloping ridge and a warped roof-plane. The roof-trusses are exposed either externally or internally, according to whether the roof or ceiling plane is at the top or bottom of each truss. At the point of crossing from one position to the other there are high-level windows illuminating the ceiling planes. Roofs are covered with cedar boarding and tiles. Ceilings are birch-faced plywood.

The church has under-floor electric heating. Artificial lighting is from floodlights at high level, accessible from a catwalk above the main nave ceiling.

key
1, courtyard.
2, entrance.
3, clergy vestry.
4, choir vestry.
5, sanctuary.
6, shopping precinct.
7, campanile platform



5

6

OFFICES NEAR RUNCORN, CHESHIRE

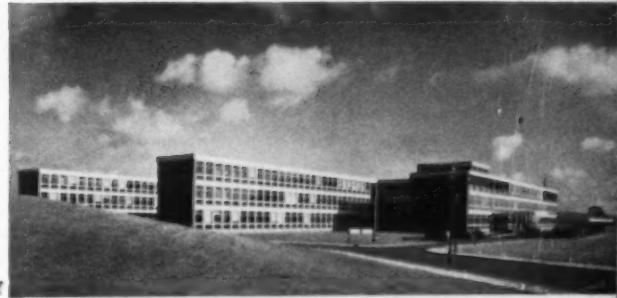
ARCHITECT: FREDERICK GIBBERD

(partner in charge, R. J. Double; associate
architects, J. W. Grimes, G. W. Dunton)

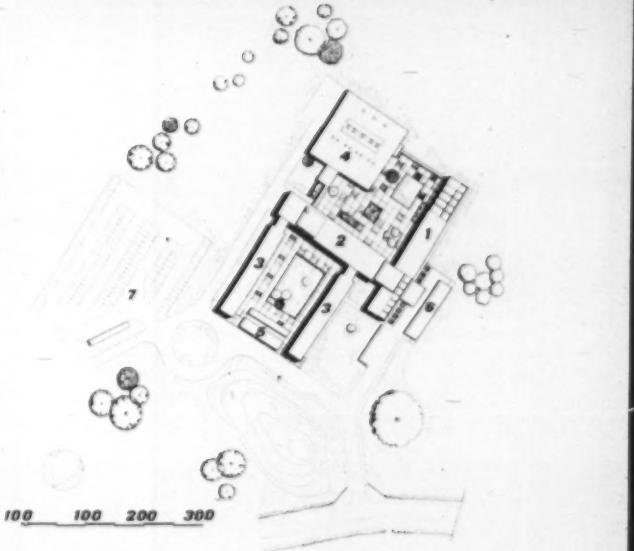
For the Engineering and Power Departments of the General Chemicals Division of ICI, on an open site with splendid views over the surrounding countryside. The bulk of the accommodation required was drawing and administrative offices. This is contained in a group of three-storey buildings, associated with which is a single-storey canteen.

After research into various types of office layout and the construction of prototype standard and drawing offices, it was decided that the most efficient and economical solution in this case was to break down the accommodation into three distinct types of building: the drawing offices, designed as two identical wings; administrative offices; and a 'service wing' containing all the services such as photo-printing and typing pools common to the rest of the scheme. The two drawing offices and the administrative block are on the north-south axis, with the service wing at right angles forming a link between them. This gave a compact layout and one in which intimate and protected garden courts are contrasted with open landscape.

The three-storey buildings are planned with a standard bay of 6 ft. 1½ in. which gives enough flexibility for the various types of room layout, the difference in function between each wing being taken up by variation in the depth of each building. The drawing offices are planned round the same module, which established the centres for the draughtsmen, each man being situated at right angles



7



site plan

key

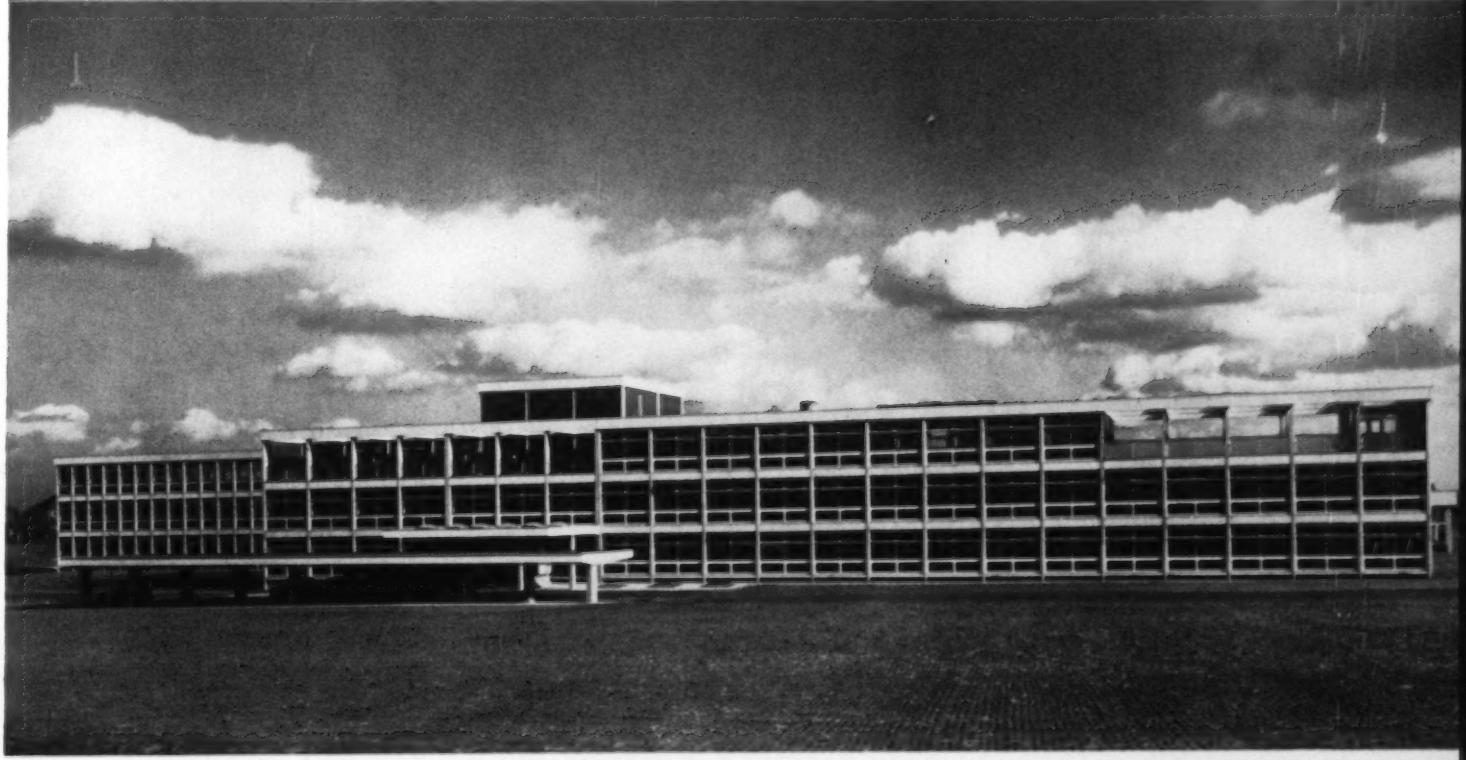
1, administration wing. 2, drawing office wings. 3, drawing offices. 4, canteen block.

5, cycles. 6, car port. 7, car park.

7, general view from the north-west. Administration wing on right and drawing office wings on left.

8, the administration wing from the west.

8



Offices near Runcorn

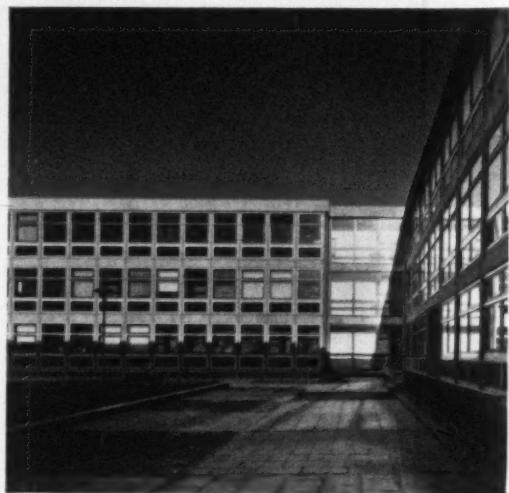
to his own window with which is incorporated a shelf unit for reference books. Glazed offices for senior staff are placed centrally on each floor.

The three-storey buildings have precast concrete columns and beams, with floors and roofs in in-situ concrete. Beams and cornice are faced with Portland reconstructed stone. External walls consist of prefabricated timber units with hardwood push-out sash windows, controlled by remote winding gear, under which are coloured insulated glass panels. The gable-end walls of the offices are faced with hand-made dark purple bricks.

Consulting Engineers, Ove Arup & Partners; Quantity Surveyors, Langdon & Every; Heating, Ventilation and Electrical Consultants, G. H. Buckle & Partners.



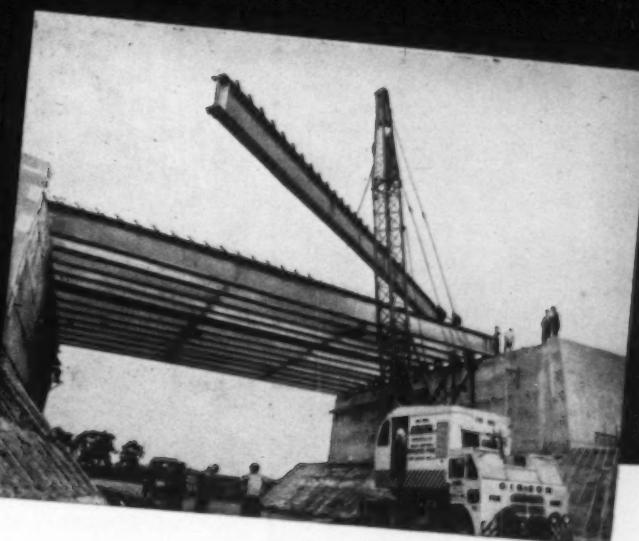
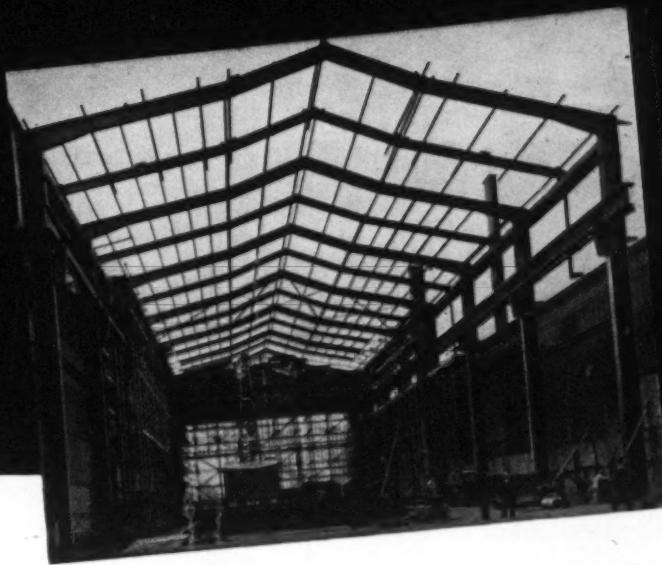
9



10



11



HOW DORMAN LONG UNIVERSAL BEAMS SIMPLIFY FABRICATION

The illustration on the left shows a new extension for Whessoe Ltd. of Darlington, covering an area of 295 ft. by 90 ft. wide, with an eaves height of 57 ft.

The portal-frame roof structure (the central portion being steeper to take glazing) is formed throughout from Universal beams, the vertical members being 36" x 16½", weighing 260 lb. per foot, and the central rafters of 24" x 12" site-welded to the tapered elbows.

Universal beams, again 36" x 16½", were site-welded and support the runways for two 40-ton capacity cranes of 80 ft. span, the columns being connected by tie-beams of 12" x 12" universals.

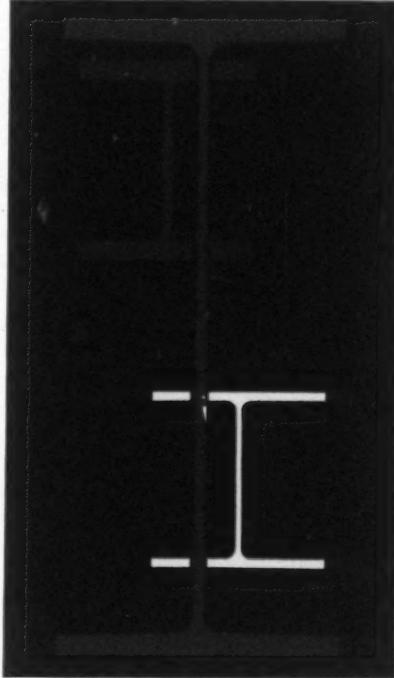
The steelwork was carried out by Redpath Brown & Co. Ltd., Edinburgh, who saved a good deal of time and labour by using universal sections which

eliminated the need for compounding.

Dorman Long Universal beams are being used to bridge wide spans hitherto needing built-up girders, thereby saving a great deal of plating, compounding and other labour, in addition to saving steel.

The illustration shows a road bridge in course of construction on the Catterick by-pass (A.1. Trunk road) built for the North Riding of Yorkshire C.C.; in this, D.L. Universal beam sections are employed practically as they left the mill, resulting in a substantial economy in fabrication.

Other sections from the Universal Mill include much-needed H sections; these are available in different weights for columns of multi-storey buildings, thereby avoiding the usual plating at the lower storeys.

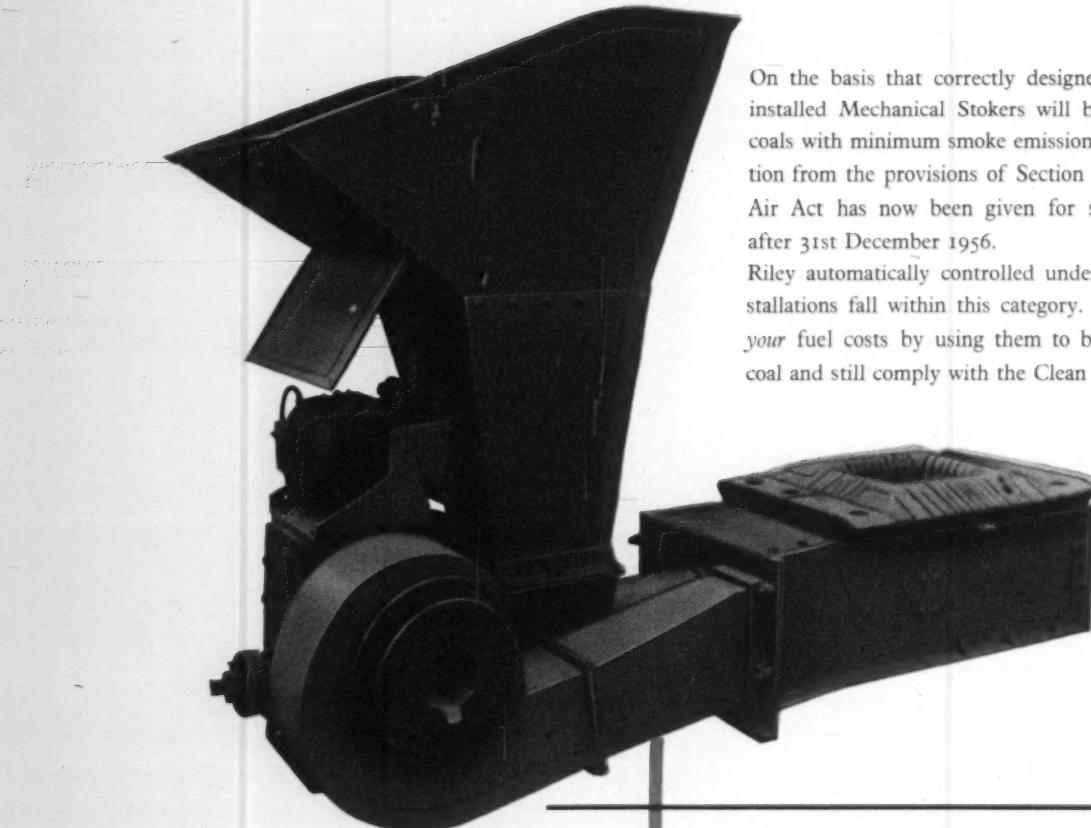


EARLY DELIVERY OF THE FULL RANGE OF SECTIONS

DORMAN LONG

Good news for coal users -

Smokeless combustion without
smokeless fuels



The illustration shows a Riley Industrial hopper feed stoker, suitable for vertical boilers for steam-raising, and the larger hot water heating boilers.

On the basis that correctly designed and properly installed Mechanical Stokers will burn bituminous coals with minimum smoke emission, official exemption from the provisions of Section 11 of the Clean Air Act has now been given for stokers installed after 31st December 1956.

Riley automatically controlled underfeed stoker installations fall within this category. So why not cut *your* fuel costs by using them to burn bituminous coal and still comply with the Clean Air Act.

There's a Riley Stoker for every need

Riley Robot hopper type and Direkto bunker feed stokers are available for sectional, vertical and water tube boilers and for heat treatment processes, and Riley Class 'B' hopper type machines for Lancashire, Cornish and Economic Boilers. All types are strong and robust, designed to give trouble-free service for many years with low maintenance costs.

For booklets giving full details of these, also Riley Chain Grate Stokers, write to:

RILEY (IC) PRODUCTS LIMITED

One of the International Combustion Group of Companies

NINETEEN WOBURN PLACE • LONDON WC1 • TELEPHONE NO: TERMINUS 2622

*Full comprehensive after sales service is available from service depots at BIRMINGHAM • BRISTOL • DERBY • GLASGOW
LEEDS • LONDON • MANCHESTER • MELTON MOWBRAY AND NEWCASTLE-ON-TYNE*

TGA R72

EXHIBITIONS

PAINTINGS

The English painter Sickert had a Danish father; the Belgian painter Ensor had an English one. Both painters were born a hundred years ago. Roland Browne and Delbano, Agnews, and the Tate Gallery in collaboration with the Arts Council have celebrated Sickert's centenary; Marlborough Fine Art has celebrated Ensor's. Sickert was influenced by Degas, and, more reluctantly, by the Impressionists. Ensor was influenced by Turner and, in a stilted sort of way, by the fantastic side of Goya. Sickert evinced a robust interest in the female nude, Ensor a lively concern with the death's-head. Sickert has been called the Degas of Camden Town, Ensor the Goya of Ostend, but this well-meant term of denigration does not allow for their moments of profoundly personal achievement.

Sickert adopted Degas's view of woman as an ill-favoured animal, and in his Camden Town period went one better than his master by giving the creature a suitably squalid setting. Degas's nudes survive his sense of the repulsiveness of the model by turning into athletes of the bath tub: they are among the greatest drawings ever made of what Sir Kenneth Clark calls 'the nude of energy'. Sickert's nudes on the other hand are inactive. They lie puddingy and inert on rumpled beds, and the painter was fond of foreshortening them to emphasize their lumpiness. Yet they are probably the best contribution to the painting of the nude, ever made by an English artist. It is rather typical of English criticism that it has not even been hinted that Sickert might have had an erotic preference for the kind of model he used: he is supposed either to have felt pity for them or to have been completely indifferent, but the fact that his vision of the nude is inseparable from its frowsy setting suggests to me that he was attracted by the kind of erotic slumming that was on the mind of many *fin de siècle* writers, and that it was freed from the atmosphere of morbid day-dreaming by his partial commitment to impressionist objectivity. To put it another way, these pictures seem to me to owe their vitality to a half-suppressed *nostalgie de la boue*. This way of putting it has the advantage of bringing the content into line with the handling of the paint. When Sir William Rothenstein spoke of Sickert as 'laboriously matching the dingy tones of

women lying on unwashed sheets upon cast-iron bedsteads,' he was, I think, confusing the sign with the thing signified. Sickert was not strictly an impressionist, for he liked to paint freely over a carefully prepared drawing and had a romantic feeling for the gleam of light that gropes at dark forms. He seems to have been uneasy when treating subjects exposed to broad daylight. The best of his Venice and Dieppe paintings are low in tone, and for the Camden Town interiors his colours invented a twilight which might at a pinch be described as a poetic equivalent for dinginess but has a richness and depth that is positively sumptuous. The way this dark, rich paint is pushed around by the brush discloses a wonderfully sensuous feeling for the substance itself. It takes account of the drawing underneath as if by an effort of will. One has the feeling that something quite different could have happened, that the figure could have been smeared out of existence, then discovered again in the substance, perhaps more bulging and monstrous than ever, but transformed into a fertility goddess, with all traces of the slattern gone. One is glad that no such thing happened at that point because the tension between drawing and painting in the Camden Town interiors gave Sickert's art whatever unique qualities it has. Afterwards, it couldn't have happened anyway, because drawing gained the upper hand for a time, and in the process the paint went powdery, like mud that's dried out, and it lost all power to seduce.



One of the best of the Venetian pictures in the Tate show was 'Le Journal,' 1, whose sombre greens suggest a room shuttered against bright daylight. It captures the emptiness of afternoons and touches on the theme explored in 'Ennui' the most famous of Sickert's works, which depicts two figures back to back—a woman leaning her elbows on a chest of drawers and a man seated at a table, and both of them staring at nothing. If it had been painted freely in the crepuscular tones of the nudes of a few years earlier, it could have been a masterpiece. But the paint is subservient to the drawing, and the juxtaposition of the figures is too



calculated. It should have reminded one of Baudelaire, and if Francis Bacon were to make a paraphrase of it, it might still live the life which Sickert's paint, used merely to colour a drawing, has denied it. (Talking of paraphrases, Roy de Maistre included a picture called 'Variations on a theme by Courbet,' 2, in his Retrospective at Whitechapel Art Gallery which summarized his qualities more effectively than any other picture in the show. The painting he has paraphrased is the glorious *Les Demoiselles des Bords de Seine*. It discloses much more sympathy for the spirit in which Picasso paraphrased the same picture than for Courbet's sense of the marvellousness of living creatures. The plump girls in their flounced dresses simply provide his metallically sinuous line with an unusually complicated meander. It leaves a trail of destruction: the outlining of every bump and hollow cuts the girls into a thousand little pieces of emptiness. These fragments are adorned with cool, decorative colour and, like the Picasso, the picture has a sanitary charm, but I count the total absence of a sense of living substance as a sin against the Holy Ghost.)

James Ensor made monotonous use of the calculated juxtaposition, but when it is sustained by an active hatred of the human race and supported by colour in a high, lyrical key applied with feline finesse, it can produce spine-chilling effects. The masks, which were his favourite properties, appear to represent common humanity, and in the large canvas in which his own likeness is surrounded by a heaving mass of them, each wearing a grin or a sneer like a fixed attribute of character, the proud, Don Quixote-like face of the painter convinces one of the horror of his situation even after it has dawned on one that he is wearing an elaborate feminine *chapeau*. It is a little like being told a heart-rending tale of persecution by someone who, incidentally, claims to be Alexander the Great, and it blurs the frontier between the work of art and the pathological document. Fortunately, several viciously brilliant pictures in the Marlborough show are quite free

from the cloudiness of involuntary confession. They follow exactly the same formula, but a death's-head replaces the self-portrait, and an example like *Les Masques et la Mort*, 3, is a clear, sparkling draught of poison. It reminds one remotely of Goya's etching of persons deriding a blind man, less remotely of Bosch's 'Mocking of Christ,' but the central figure, in its soft, creamy shawl, is enjoying the situation. It is possible that the masks think they are jostling a young girl, but all one can say for certain is that, like all his best work, it is beautifully painted and horribly ambiguous.

Gustav Klimt's were far and away the most remarkable pictures in the interesting exhibition of Austrian painting since 1900, held at the Arts Council gallery. Klimt was one of the masters of the *Jugendstil* movement, and to my mind the greatest exponent of that particular kind of flat pattern and writhing line. His work is practically unknown here, and was judi-

best, and although modern painters pride themselves on being the very opposite of precious, the astonishing thing about Klimt's elaborate decorative detail is the persistence with which it brings to mind the compositions and textures of the free abstractionists, almost as if he might be



4
ciously represented at the Arts Council show by an enchanting portrait of a young woman in a very large hat, 4, a lovely landscape, filled with a calm daylight mystery, the 'Danaë,' which is one of his decorative masterpieces, and two graceful drawings of women. He dominated the exhibition, although it included work by the painter Kokoschka and the sculptor Wotruba, and a full-scale exhibition of his pictures ought to be brought to London at the earliest possible moment. Danaë is curled up asleep, all resounding curves and innocent enticement, and the strands of her bright auburn hair fall across her pearly face and shoulder and lap against her equally pearly breast like lacquered Chinese waves. It sounds, I realize, like turn of the century preciousness at its worst, and in a sense it is, but it's also preciousness at its fantastically inventive

the most inclusive automatist of them all. Take just one of many instances—the treatment of the shower of gold in which Apollo hides his identity from Danaë. It has been conceived by Klimt as a God's spermatozoa, and is an intricate raised pattern of little discs and hooks and twigs, which looks like a gilded version of Dubuffet's mud language.

The two sides of contemporary Austrian art—the fantastic and the abstract—are, at their best, equally in debt to the convolutions of Klimt's *art nouveau*. Fritz Hundertwasser is their outstanding abstractionist. His labyrinthine 'The Asian War,' 5, is a typical example of his work.

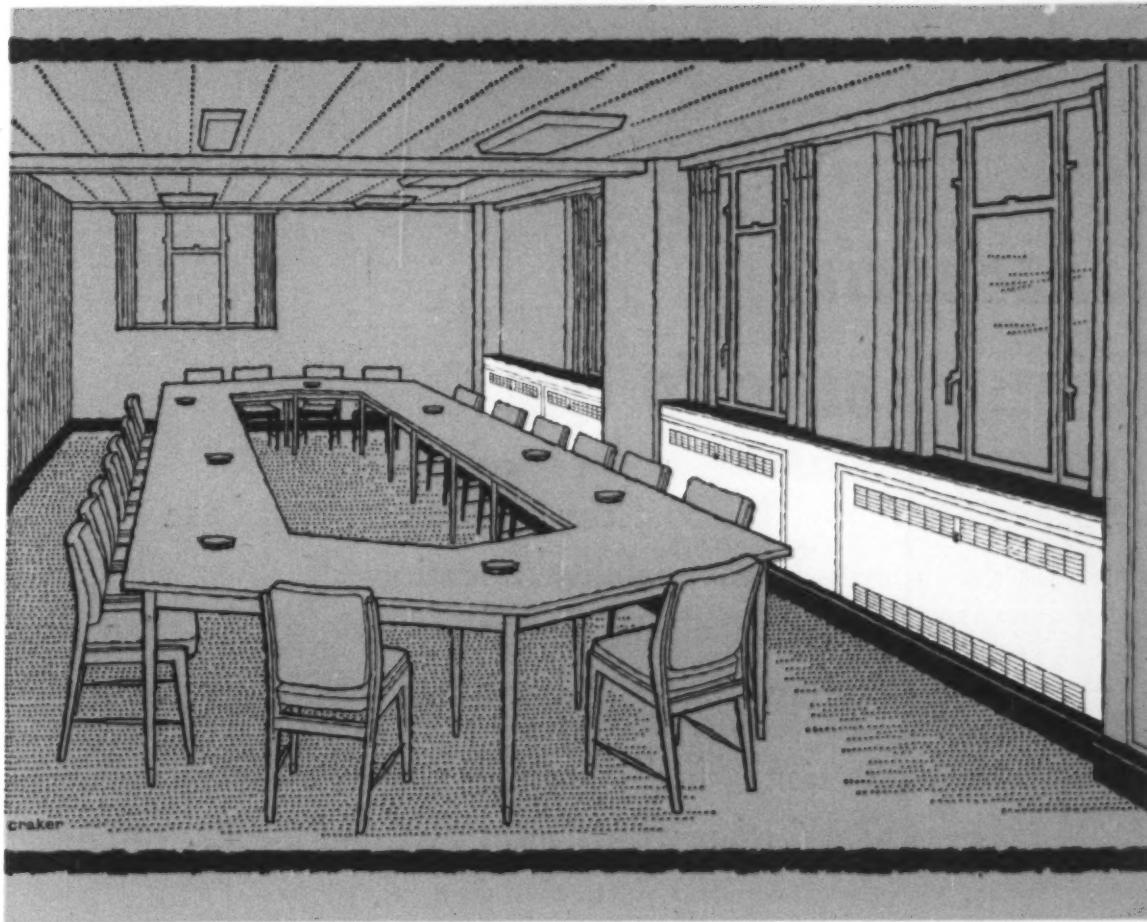
The selection of nine paintings and eighty drawings from the collection in the Library of Christ Church, Oxford, recently exhibited at the Matthiesen Gallery provided a very good idea of its



BP chose ...

Copperad Convector

for their new headquarters



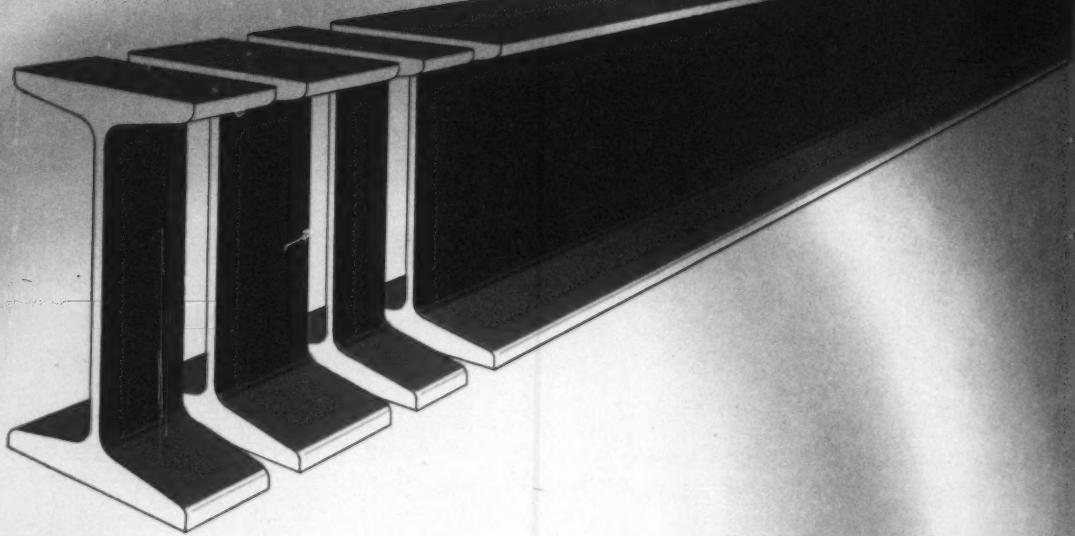
This conference room at BP House shows the good use of unobtrusive COPPERAD Convector heating (specially picked out in white to indicate location). Being an integral part of the building, it wastes no space. As dampers are fitted to each unit, temperatures can be varied to personal taste.

Over 1,000 units have been installed to give

- ✿ a natural healthy atmosphere by warmth with air movement.
- ✿ economical heat at the normal point of loss on the outside wall.

Architects: Messrs. Joseph, F.F.R.I.B.A.
Heating Engineers: Young, Austen & Young

Copperad Ltd. Colnbrook Bucks
Telephone: Colnbrook 2521
Telegrams: Copperad Colnbrook



...successive cuts in cost

Reductions in the cost of steelwork have recently been made possible by the availability of sections of increased structural efficiency, and new methods of design and fabrication have made further economies possible.

The adoption of higher working stresses has brought a further reduction in steel and labour, with corresponding reduction in cost.

And that is not all. The cost of steel per ton is now lower. So the cost of steel-framed buildings goes down and down.

STEELWORK SUITS EVERY TYPE OF BUILDING
AND IS EASILY ALTERED OR ADAPTED

BRITISH CONSTRUCTIONAL STEELWORK ASSOCIATION
ARTILLERY ROW, WESTMINSTER, S.W.1

B.C.S.A.



richness and variety. The drawings were particularly various, ranging from the great masters, Michelangelo, Leonardo, Raphael, Rembrandt, Durer, and so on, to fascinating oddities such as Jacob de Gheyn's study of a man making love to a witch on the back of an angry monster, and Georg Pencz's brilliant design, for a ceiling, of workmen constructing a ceiling. The painting of a wounded centaur by Filippino Lippi, 6, is a deeply moving example of poetic realism. The contrast between the flesh colour of the human torso and the grey pelt of the horse brings out sharply and unforgettably the pathos of the monstrous.

There have been two exhibitions of Dubuffet's work in London recently: an exhibition of paintings of various dates at the Hanover Gallery, and at Arthur Tooth & Sons an exhibition of recent pictures made of dried leaves and other



7

botanical specimens, which demonstrates once again his extraordinary virtuosity in the handling of the materials of his art. The imagery in the leaf pictures is very much the same as in the paintings, but the 'pieces of ground' look, as one would expect, more fertile. He finds it perhaps a little more difficult to convey the impression that the figures and animals *emerge* from his botanical substances and most of the figures are simply ingenious patchworks, but in 'Tigre Fleuri,' which is given a fiery glow by the use of orange peel, he is particularly successful in defining an angry *personnage* without disengaging it from the humus. It is as remarkable in its way as the sinister presence called 'Statue of a Shadow,' 7, which frowned from the walls of the Hanover Gallery.

One of Max Ernst's surrealist masterpieces, the 'Apres nous la Maternité,' 8, of 1927, has recently been on view at the



8

Mayor Gallery. At the time it was painted, Ernst did not have at his command anything like the subtlety of texture that characterizes the Dubuffet, but it has, I think, an even greater apparitional force, and, if anything, the unmysterious way in which it is painted increases its magic.

Robert Melville

TOWNSCAPE

RESTORING THE ROYAL MILE

Considerable progress has now been made in the rehabilitation of the Royal Mile, the street which forms the core of the Old Town of Edinburgh, running down the ridge from the Castle to the Palace of Holyroodhouse. It is a stone-built street of high buildings and great variety, the centre of a community containing, *inter alia*, many houses and shops, St. Giles's Cathedral, the Court

of Session, the City Chambers, the Signet Library, the Central Students' Library, three Museums, the Kirk and Tolbooth of Canongate, the Scottish Craft Centre, Patrick Geddes's Outlook Tower, a teachers' training college and school, several breweries and lesser industries, and a large number of public houses. Although in fact it dates from various times between the seventeenth century and the present, to this day it undoubtedly has the ambience of a mediaeval street, romantic in silhouette and interesting in detail.

Formerly a rich microcosm of social classes, it declined sharply in status following the development of the New Town from 1770 onwards, and ultimately sank into appalling congestion and squalor. Although some clearance and good restoration work was achieved before the last war, by the Ministry of Works, Edinburgh Corporation, the late Marquis of Bute, and the National Trust for Scotland, it is only since then that a determined effort has been made by the Corporation to enlist co-operation in rescuing the good traditional architecture that survives, introducing fresh commercial and cultural activity into the area, and—a process still very much in execution—improving housing conditions throughout the Old Town. This is being achieved chiefly by a policy of restoration or reconstruction, but also, where necessary, by site clearance and new building.

Architecturally this policy poses many problems, technical and aesthetic. In the upper section of the street, known as the Lawnmarket, practically the whole of the south side, consisting of very tall seventeenth-century buildings, has been restored and internally reconstructed for use as housing by the City Architect's department, for administrative uses by Mr. J. Wilson Paterson or for the Central Students' Library (by the Carnegie Trust advised by Mr. James Shearer), making in all a very impressive traditional group.

1. The Royal Mile from the north, showing the new houses of the Tolbooth scheme, constructed in part behind the 17th century frontages.





2



4



3



5

2, *Bible Land* (1677) and adjacent buildings before reconstruction.

3, *Bible Land* restored under the Tolbooth scheme, with remodelled shops and new flats above.

4, *Canongate*, with the restored Shoemakers' Land frontage on the left and the new building alongside.

5, the *Morocco Land* scheme, *Canongate*, which is an entirely new development on a cleared site.

The central section, known as the High Street, containing St. Giles's Cathedral and most of the civic and national institutions already referred to, so far remains as it was, although proposed extensions to the City Chambers may soon effect a marked transformation on the north side.

The lower section, known as Canongate, has been the scene of much recent activity. Some years ago the Corporation sponsored three major schemes known respectively as Tolbooth, Morocco Land and Chessel's Court, all designed by Robert Hurd. The first two have been completed. The Tolbooth scheme involved the restoration of two seventeenth-century frontages and one early eighteenth-century frontage, now in each case structurally integrated with completely new housing at the back and thus, with a range of new elevations, forming a

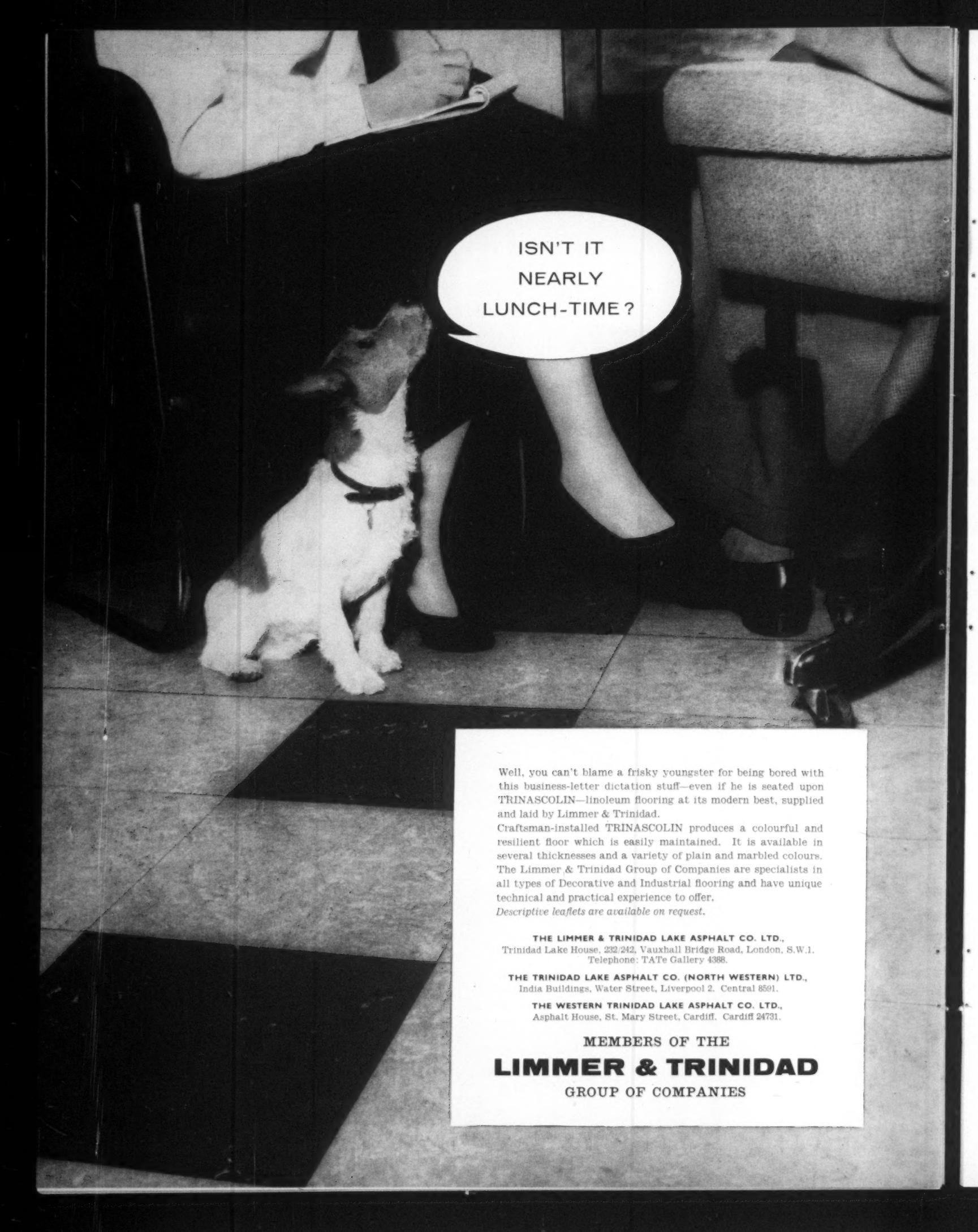
Truscon

FOR
PARKING
GARAGES

* Write for a copy of *Truscon Review Number 19*

Truscon Limited, Reinforced Concrete Designers & Contractors
35/41 Lower Marsh, London SE1 Waterloo 6922.

Also at: Birmingham, Edgbaston 4391-2-3 · Bristol 21861 · Glasgow, Central 0157-8
Liverpool, Central 5281-2 · Manchester, Trafford Park 2766 · York 24594



ISN'T IT
NEARLY
LUNCH-TIME?

Well, you can't blame a frisky youngster for being bored with this business-letter dictation stuff—even if he is seated upon TRINASCOLIN—linoleum flooring at its modern best, supplied and laid by Limmer & Trinidad.

Craftsman-installed TRINASCOLIN produces a colourful and resilient floor which is easily maintained. It is available in several thicknesses and a variety of plain and marbled colours. The Limmer & Trinidad Group of Companies are specialists in all types of Decorative and Industrial flooring and have unique technical and practical experience to offer.

Descriptive leaflets are available on request.

THE LIMMER & TRINIDAD LAKE ASPHALT CO. LTD.
Trinidad Lake House, 232/242, Vauxhall Bridge Road, London, S.W.1.
Telephone: TATE Gallery 4388.

THE TRINIDAD LAKE ASPHALT CO. (NORTH WESTERN) LTD.,
India Buildings, Water Street, Liverpool 2. Central 8591.

THE WESTERN TRINIDAD LAKE ASPHALT CO. LTD.,
Asphalt House, St. Mary Street, Cardiff 24731.

MEMBERS OF THE
LIMMER & TRINIDAD
GROUP OF COMPANIES



6



7

striking feature of the Old Town ridge as seen from the north. Incorporated into this scheme is shop arading, a feature once known in Edinburgh, but surviving only in one Lawnmarket building.

The Morocco Land scheme consists of modern development of a cleared site, comprising houses and shops, some also in an arcade. Handled more freely than the Tolbooth scheme, the building line here has been changed slightly to allow for housing set back from the street and accessible from a raised footpath, thus breaking the severity of the street. The third and largest scheme, Chessel's Court, is still under construction, only a small portion containing nine houses and three shops (Gullan's Close) on the south side of the street having been completed so far, involving new building integrated with late seventeenth-century frontages. The major part consists partly of restoration work on a large 1746 block containing several good interiors, partly of completely new building on Canongate frontage sites yet to be cleared, and partly of new building in the hinter-

6. The Tolbooth scheme; the street has been widened and the new buildings incorporate shop arcades.
7. Gullan's House, Canongate, which has new building behind seventeenth century frontages.

land. Apart from one shop, a public house and a small nursery school, all this will be for housing. Incorporated in this new work will be an open piazza giving a view through to the gardens of Chessel's Court from the Canongate, while maintaining the essential continuity of the street itself. The introduction of colour on the walls plays an important part in all three Canongate schemes, along with a reduction of all shop frontages to a scale more appropriate to the elevations.

The Corporation is now proceeding to sponsor further new schemes nearer the Palace of Holyroodhouse, one simple and attractive group by Ian Lindsay and Partners adjacent to Queensberry House (the subject of an exhibit in this year's Royal Scottish Academy) and one on a larger scale in the vicinity of Reid's Court by Basil Spence and Partners, details of which are not yet fully settled. In addition to these, the Corporation is being openly encouraged by the Secretary of State for Scotland and the Historic Buildings Council for Scotland to proceed with the restoration and adaptation of the remaining old buildings of architectural or historic interest; so that within a few years the architectural restitution of this famous street should be fully achieved. Already, as a result of this concerted effort over the years, the Royal Mile is on the upgrade socially and commercially, and seems to have come into the current of everyday life in Edinburgh to an extent which has not been known for many generations.

HISTORY

DATING ST. GEORGE'S, HANOVER SQUARE

Recent authoritative source books¹ give the date of John James's church of St. George, Hanover Square, as 1712-1724. The papers of the Commission of 1711 for the 'Fifty New Churches' which came to light in 1954 show that this date is erroneous. The Minutes of the Commission and the Books of Works reveal that the church was designed during November and December, 1720. Work was started in February, 1721, and the building was ready for consecration in March, 1725.

Among the drawings by James Gibbs in the Ashmolean Museum, Oxford, are two plans for 'the intended Church in Great George street near Hanover Square,' one of which is signed as approved by fifteen local worthies². The explanation is given by a letter to the Commission from General William Stewart (or Stuart) dated December 13, 1720³, in which it is mentioned that the residents, impatient at the delay in getting a plan from the Commission's Surveyors, Hawksmoor and James, had independently engaged Gibbs to draw up plans. Several of these gentlemen were important members of the separate Commission for rebuilding St. Martin-in-the-Fields, the mother church of the parish⁴, and they had been favourably impressed by Gibbs during his successful application for the Surveyorship to St. Martin's (obtained November 24, 1720).

On October 27, 1720, the Commission had ordered the Surveyors to draw up plans for the church and James submitted his plan on November 3. General Stewart's protégé, Gibbs, was invited to show the Commission his designs and estimates on November 16. On December 7 James was ordered to modify his plan in the interests of economy and the following week his plan was approved.

This new dating necessitates a re-appraisal of the relationship of the design to that of St. Martin-in-the-Fields. The discovery that Gibbs had submitted to the Commission designs in the form of peripteral and pseudo-peripteral temples with steeples on their roofs as early as 1713 and 1714 shows that James did not, as previously thought⁵, anticipate Gibbs in the composition of a steeple rising out

¹ H. Colvin, *Biographical Dictionary of English Architects, 1660-1840*, Murray, 1954.
² J. Summerson, *Architecture in Britain, 1530-1830*, 2nd edition, Penguin Books, 1955.

³ Ashmolean Museum, Gibbs, Vol. II, folios 37, 38.

⁴ Lambeth Palace Library, New Churches Box 11.

⁵ The Commission for St. Martin's lent the Commission for 'Fifty New Churches' £2,000 to build St. George's Feb., 1721.

⁶ Summerson, op. cit.



St. George's, Hanover Square, London, by John James.

of the main body of the church, behind and above a full-scale, hexastyle portico. This position of the steeple was Gibbs's innovation. The theme of the monumental church portico goes back to Inigo Jones and John Webb. Porticoes and steeples were included in the recommendations to the Commission for 'Fifty New Churches' of both Wren⁶ and Vanbrugh.⁷

John Field

COUNTER-ATTACK

CHARLOTTE SQUARE, EDINBURGH

An unusual piece of vandalism is at present being committed in Charlotte Square, perhaps the most prized and most beautiful thing in Edinburgh New Town. For some time now the square, in addition to being the inevitable car-park, has been on a

⁶ Published in *Wren Society*, IX, pp 15-18.

⁷ Published in L. Whistler, *The Imagination of Vanbrugh and his Fellow Artists*, pp 247-252.

number of city bus routes. (St. Andrew's Square at the opposite end of the original New Town was long ago wrecked by being turned into an annexe of the main bus station.) Traffic now moves one way round the square (clockwise), but until recently the camber, particularly on the north side, sloped the wrong way for traffic, which thus tended to use the part of the roadway nearest to the houses. This alarmed the owners, and though the City Engineer believed that fear for the structure of the houses was groundless, he nevertheless used the occasion to prepare a scheme for reversing the camber so that the slope is into the middle.

On the north side of the square the pavement along the garden is a foot higher than that in front of the houses (and this fall in the land is one reason for the outward camber of the old roadway). Reversing the camber therefore means that the gardens will be several feet above the roadway, and the very subtle relation between the buildings and the central space (which were of course designed together) will be entirely disrupted. The Chairman of the Corporation Works Committee says that 'the gardens will be approached from all sides by steps usual in the Old and New Town of Edinburgh where levels vary,' thus ignoring the fact that in these other New Town schemes the buildings and gardens were designed to incorporate steps and changes of level.

The scheme aroused so much opposition, from both local residents and distinguished architects, that work was stopped for three months. During this time the Corporation have apparently taken no advice or guidance, but they are now happily satisfied that the changes 'will do no harm,' and that when the work is completed 'the results would commend themselves to the unbiased viewer.'

The viewer, biased or otherwise, will have little opportunity to judge when the traffic returns at, presumably, greater speed than before. The lamentable thing is that this particular bit of injudicious juggling can bring no more than temporary relief: the City seems bent on applying one *ad hoc* solution after another, never really meeting the problem, but each time gaining just enough relief to have time to think up the next desperate move. How much of Edinburgh will be ruined in this way, before a really radical approach is made?

Andor Gomme

Work in progress altering the roadway in Charlotte Square, Edinburgh.



MOISTOP

TRADE MARK

POLYTHENE
COATED

REINFORCED

MOISTURE VAPOUR BARRIER

MOISTOP — is a SISALKRAFT product reinforced with unspun sisal fibres in the longitudinal and cross directions. The fibres are totally enclosed by two layers of high grade bitumen, which in turn are faced with tough, kraft paper, and one surface is coated with a layer of POLYTHENE.

The result of this combination is an effective MOISTURE VAPOUR BARRIER that combines the strength of SISALKRAFT with the virtues of POLYTHENE.

APPLICATIONS

- Sarking under tiles and slates
- Moisture barrier in timber frame construction
- Under timber floors
- Moisture and air stop in walls
- Underlay to concrete
- Separation layer between concrete
- Curing concrete
- Form lining
- Protection from frost
- Temporary tarpaulin

A PRODUCT OF BRITISH SISALKRAFT LTD

Information and samples from the
SOLE DISTRIBUTORS

J.H.SANKEY & SON LTD

Established over a Century

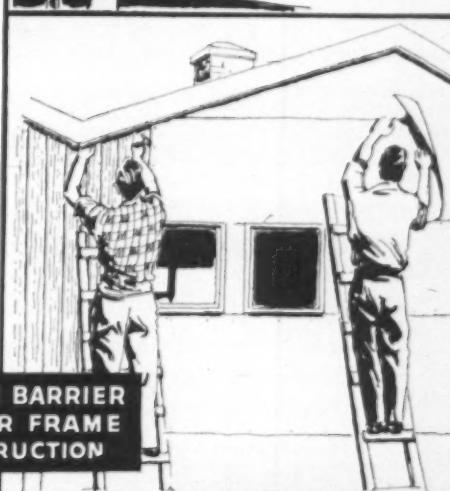
ESSEX WORKS · RIPPLE ROAD · BARKING · ESSEX

PHONE: DOMinion 6666

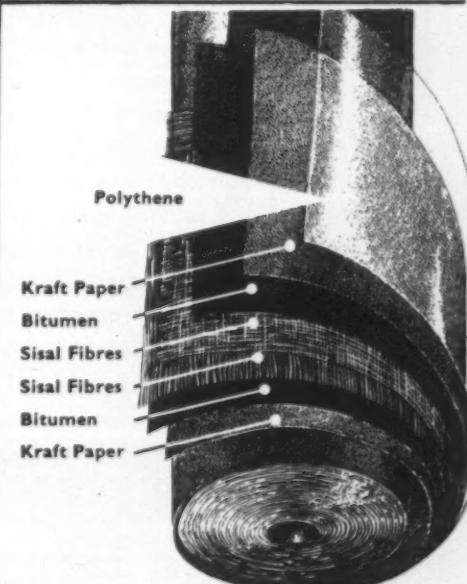
GRAMS: Brickwork Barking



SARKING UNDER
TILES AND SLATES



MOISTURE BARRIER
IN TIMBER FRAME
CONSTRUCTION



COLOUR SERVICE COLOUR SERVICE

technical service in action No. 4

Painting of zinc and galvanized surfaces

The painting of zinc and galvanized surfaces has for years been a problem of varying difficulty and many solutions have been offered.

The zinc surface was often treated before painting with an etching solution such as a dilute acid, in order to obtain a degree of mechanical adhesion. Numerous concoctions of etching and mordanting solutions were devised, but none offered a real solution, since even after the most careful preparation paint film flaking took place due to lack of adhesion between the zinc or galvanized surface and the paint film.

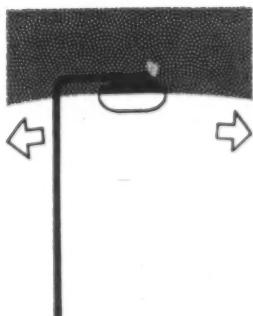
The discovery, manufacture and use of a new pigment, calcium plumbate, has entirely altered this situation. A primer/undercoat paint containing a substantial quantity of calcium plumbate as a pigment, if used on new or old zinc or galvanized surfaces, gives a film with outstanding adhesion under all circumstances. It can be easily over-painted, giving a good painting system of excellent durability. In this way a sound economic solution of an age old problem is available if GOODLASS STOP-RUST PRIMER/UNDERCOATING PAINT is used. Additional advice concerning this product and all other Goodlass, Wall paints can be obtained from our Technical Service Department. Goodlass, Wall & Co. Limited, The Corn Exchange, Liverpool 2, or 179/185 Gt. Portland Street, London, W.1.

SERVICE

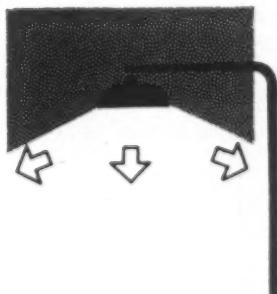
SKILL

STREET LIGHTING

Recent attacks on the unsightly effects of new street lighting have shown the architect and engineer barely able to understand each other's approach to the problem. The object of this article, which is written by an authority on the technical aspects of lighting, is to explain how street lighting works. The author describes the broad effect of the 'silhouette' system developed mainly in this country before the war and of the 'cut-off' system developed mainly on the Continent. He points out that improvements in road surfacing, and the fact that we now have more money to spend on lighting, have together made the 'silhouette' system less favourable and suggests that we should generally go over to the 'cut-off' system—at least outside the built-up area. For motorways he advocates widely spaced lamps mounted high, and for towns some measure of upward light to give interest and reduce glare from other sources.



1, the 'British' non-cut-off system sends the main beam of light out just below the horizontal. This aids the sheen on the road which is the background for silhouette vision.



2, the 'Continental' cut-off system shields the main beam of light from the driver's eyes. There is no glare, but good visibility is only possible when there is plenty of light available.

Many readers may be familiar with a short stretch of the A1 road just by De Havilland's factory near Hatfield. This has been lit for many years by well-shielded lamps in lanterns mounted high in the centre reservation of the dual carriageway. This is an installation which receives almost universal approval from the ordinary 'man in the street,' who wonders why there is so little street lighting in Britain like it. The reason is that this system of lighting contradicts many of the accepted canons of contemporary British street lighting practice.

Until the advent of wide carriageways bearing heavy motor traffic, street lighting could well be a simple matter of a few poles bearing lamps in nothing more than protective glass coverings. Little needed to be done to control the light optically, it just fell where it would. As traffic became more dense, more light was needed on the road, and so simple optical devices—mirrors and the like—were fitted into the lanterns to direct more of the light of the lamp on to the roadway rather than let it be wasted up in the sky. Then in the 1930's the forerunner of the British Standards Institution set up a test of street lighting practice, based on the amount of light measured on the carriageway midway between posts along the road.

About this time, however, it was realized that one saw things on a lighted street more often by silhouette against the brighter background of the street surface. This was particularly true from the driving seat of a car. It seems unbelievable that a dark asphaltic street surface will be

brighter than a girl in a light raincoat, and that she will be seen in silhouette, but such is the case, and those who do not believe can easily test this for themselves.

This observation of 'silhouette vision' must have been made by someone many decades ago, but nobody seems to have turned it to good technical use until the mid-1930's. About this time, the lamp firms were developing the new discharge lamps (mercury blue-green and sodium orange-yellow) and the engineers working on the application of these lamps to street lighting found themselves with a light source very difficult to tame to the demands of the British Standard Specification. In spite of this, the experimental installations which they put up with the new lamps were superior to those carefully built to the specification. They analysed the reasons for this, and found that the explanation lay in this fact of 'silhouette vision.' The very fact that the new lamps punched out light too high to reach the BS 'test point' on the carriageway was actually an advantage, because it was just this light which enhanced the 'sheen' on the road surface. This 'sheen' in turn provided the bright background for the silhouetting of objects. The brighter the sheen, the stronger the silhouette, and the better the visibility.

The snag was the glare caused by this high angle light shining straight into the eyes of the driver.

This is the problem which has confronted street lighting engineers ever since that time. If the 'silhouette vision' principle is used, there must be glare. The alternative is to shield

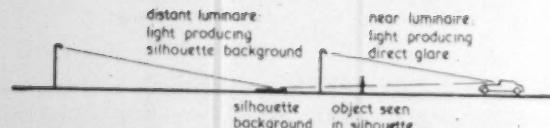
the lamps, and forgo the advantages of the high visibility afforded by silhouette vision. In Britain the decision went in favour of the silhouette principle, but on the Continent it went the other way. That is why the great majority of contemporary street lighting in Britain has unshielded lamps.

The glare question was not ignored. The disadvantage was well understood, and studies were initiated by the lamp firms at the National Physical Laboratory, and later conducted in their own laboratories, but it was soon recognized that the problem was too difficult to solve quickly. It was decided to go for silhouette vision and put up with the glare.

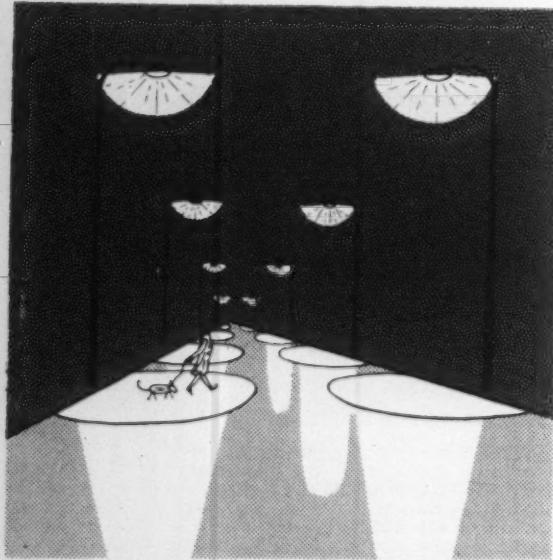
This decision undoubtedly saved a great many lives on the streets at night. The silhouette system is 'efficient' in the sense that it gives a high degree of visibility for a small expenditure of energy, a matter of great consequence before the war, when money for street lighting was hard to come by. The decision also caused a great deal of annoyance from glare and criticism from those sensitive to glare while driving, who did not understand the advantages of good visibility inherent in the system.

Not all engineers, even in this country, felt that the silhouette principle was the best, and on the Continent they were not convinced that enhanced visibility was the only thing that really mattered in street lighting, and so two schools of street lighting grew up together, the silhouette school in this country, and the 'cut-off' school (so-called because the light was cut off by optical

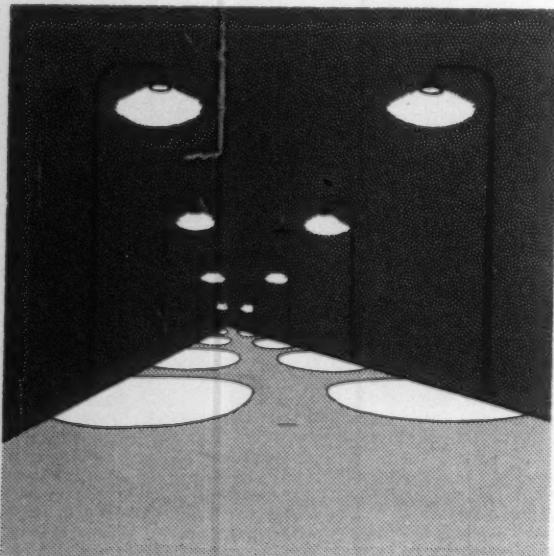
SKILL



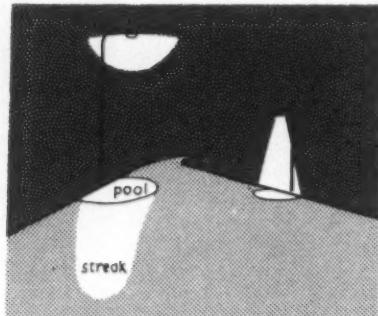
3. The 'British' system depends on light from distant luminaires, reflected and scattered off myriad elementary 'mirrors' in the road surface, to produce a bright sheen against which objects are clearly seen in silhouette. A high degree of revealing power results from a small amount of light energy. Unfortunately the 'high light' which produces the wanted sheen also results in direct glare, which may cause discomfort or distraction, but would normally not impede vision to a serious degree.



5. The British 'non cut-off' or 'silhouette' system relies on strong silhouettes of objects against an interlinking jigsaw of pools and streaks. It is easy to get a good bright background, but there must be glare. The more posts and the bigger the lights, the better the background, but glare goes up too.



6. The Continental 'cut-off' system has no streaks, only pools. Only if the luminaires are mounted high will the pools join up and make a good road appearance. There is no glare.



4. Light from a street luminaire produces a 'pool' and a 'streak.' The 'pool' comes from the low angle light: the higher the luminaire, the bigger the 'pool.' The 'streak' comes from the high angle light which also causes glare.

shielding from dazzling the eyes), chiefly on the Continent. By the time war broke out, in 1939, excellent installations of both types could be seen both here and overseas (the Hatfield installation is typical of the Continental 'cut-off' system as then practised), because in Britain there were many engineers who preferred, or whose Highways Committees preferred, the non-glare system, and equally on the Continent there were those who appreciated the advantages of economy and enhanced visibility of the British system. After the war, we in England continued to install lighting by the silhouette system but a new and important factor was coming in.

This was the fact that, for various reasons including the continual advance in the standard of living, much more money became available for street lighting. Now the silhouette system is essentially an economical system; that is, it squeezes the maximum of visibility out of the minimum of light energy. When money was tight it did a good job, but when money became available and people were prepared to pay for the best street lighting, engineers continued to install silhouette lighting, but with more posts and bigger lamps, on the principle that more of a good thing must necessarily be better. But inherent in the silhouette system is glare and dazzle, and more silhouette lighting results in more glare.

To function efficiently the silhouette system demands a sheen on the road surface. This does not mean that the surface has to be polished; the requirement is rather for a myriad assortment of little mirrors arranged randomly over the road surface, and many pre-war surfaces had just that desirable property. Research on the non-skid properties of road surfaces has, however, led to the development of surfaces which are much 'duller' and which do not produce a good bright background so necessary for silhouette vision. Such a surface may be good for traffic safety because of its non-skid properties, but it reduces visibility at night. Glare becomes a double problem, first because the road brightness, which acts as a buffer to the glaring lights, is not as bright as it should be, and second because the more lavish installation, with more lights on more posts and more powerful lamps, punches a

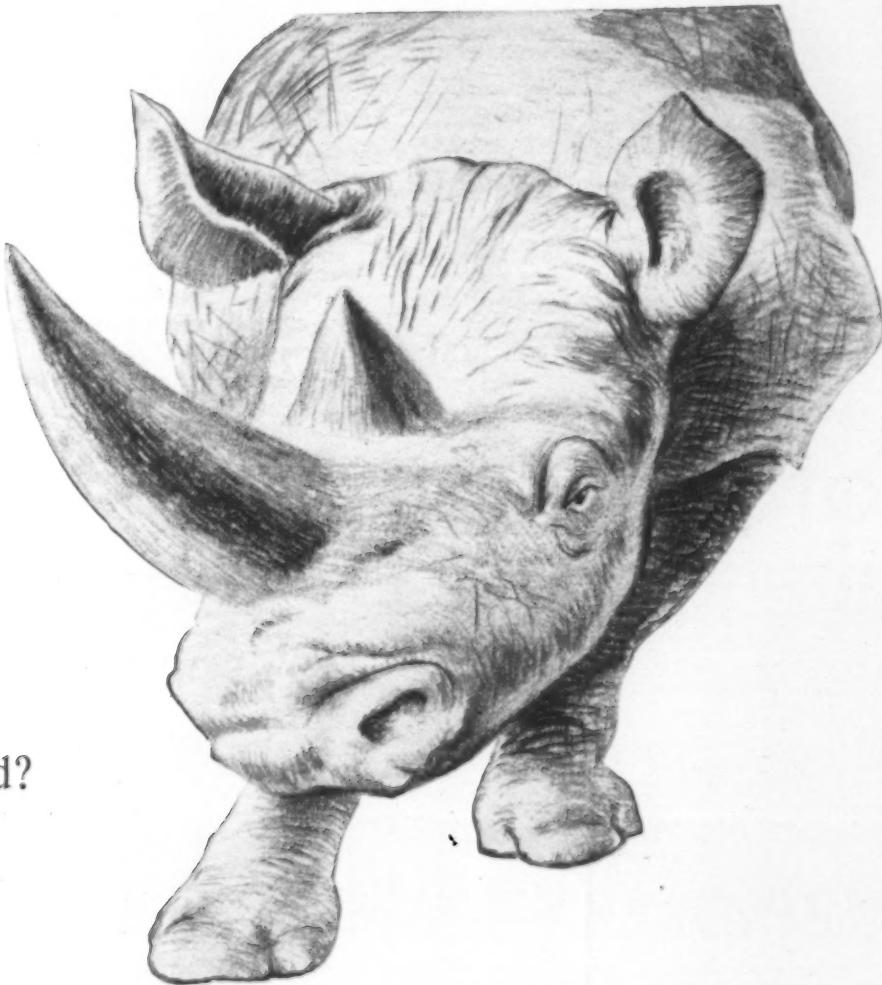
greater amount of light straight into the driver's eye.

The Continental 'cut-off' system, on the other hand, thrives on extra light. Since it prevents any light reaching the driver's eye by means of optical control in the lanterns, all extra light is directed on to the road, to improve visibility without in any way adding glare. So the result is that, whereas post-war British street lighting gives only a little better visibility than the best pre-war examples, and often much more glare, post-war Continental lighting is far and away better than pre-war. This outstanding improvement has inspired Continental lighting engineers to adventures in design which have left British practice behind. Lanterns are now being mounted very high above the roadway, with posts set well back from the edge, and by skill in 'styling' a much more graceful effect is achieved with less obstruction on the consciousness in daylight.

This is the bare skeleton of the story of street lighting up to the present. It remains only to clear up a few of the doubts that every layman has about systems which engineers consider to be on or beyond the lunatic fringe. Among these are lighting from the kerb, lighting from under the road, lighting from headlamps mounted on poles three-feet high, lighting from shielded lamps on low posts, and so on.

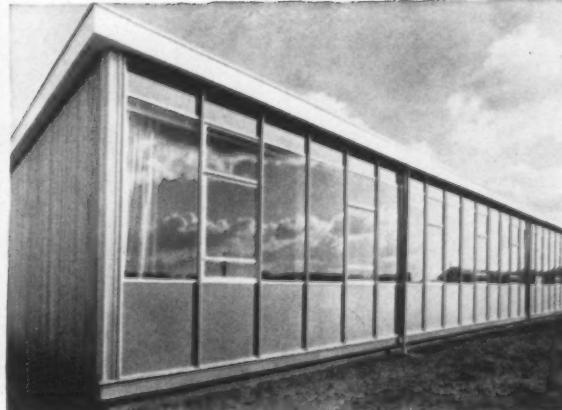
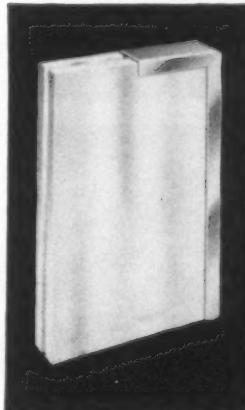
None of these systems works, and it is not difficult to show why on theoretical grounds, but these do not convince the layman, and so the only recourse is to let him see for himself. Consequently, every ten years or so, expensive demonstrations are organized to show one or other of these systems to national or local authority committees and to convince them how disastrous it would be to light our streets in any of these ways. These demonstrations are always completely convincing, and serve their purpose for the time, until a new generation of administrators and politicians takes over, and the whole demonstration has to be arranged yet once more. The situation is unfortunate and expensive, but there seems no way, short of dictatorship, of avoiding it. The experts inevitably feel aggrieved that their advice is not taken before the expense is incurred, [continued on page 157]

thick-skinned?



It's one way of guarding against heat loss . . . but a better way is the lighter, 'Hilsulate' double glass clear panels. Effective way of improving thermal insulation they reduce transmittance factor from 1.00 to 0.65—comparable to a 4½" brick wall.

For full information on the range of 'Hilsulate' panels for window and solid wall areas, please contact our Technical Department.



Standard Triumph International Co. Ltd.

HILLS (WEST BROMWICH) **LIMITED**



ALBION ROAD, WEST BROMWICH, STAFFS.
Telephone: West Bromwich 1811 (15 lines).

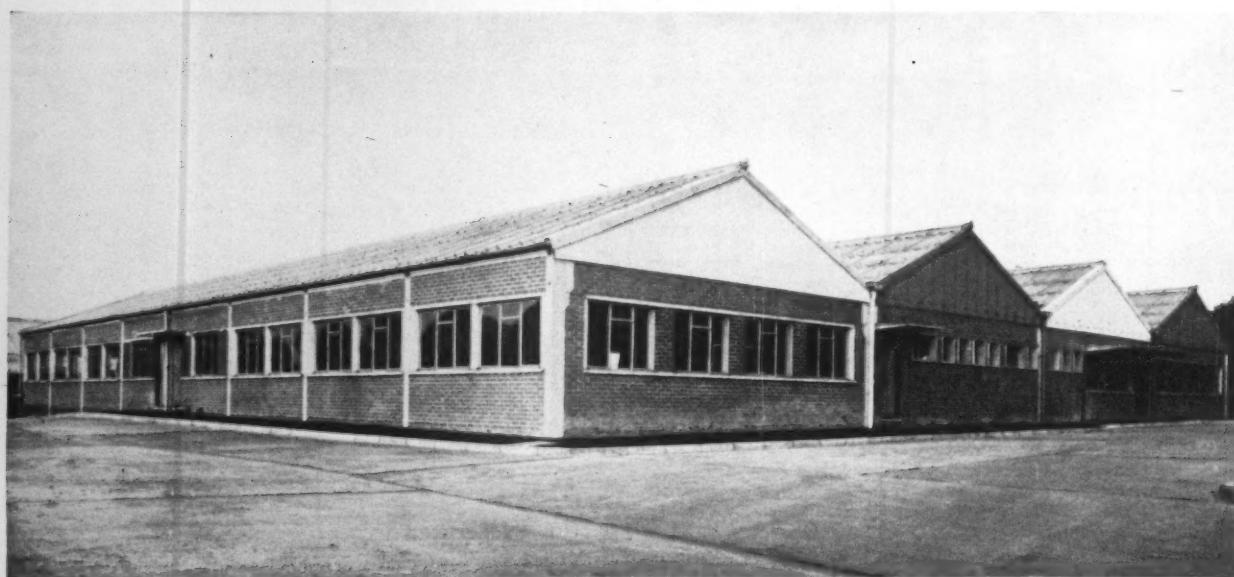
London: CHAPONE PLACE, DEAN STREET, W.1.
Telephone: GERrard 0526/9.

Branches at: Manchester, Bristol, Newcastle-on-Tyne, Glasgow

**TYLER
TONBRIDGE**

We manufacture Precast Reinforced Concrete Units to meet rapid erectional needs for all types and all sizes of industrial buildings. Standard span sizes range from 16' 6" to 60'—made to meet our own exacting technical specifications and we can supply insulation to comply with the Standard of Thermal Insulation for Industrial Buildings No. 1220 of 1958. Tylers' Units combine durability of construction with a special smooth finish that contributes to the attractiveness of all modern concrete elevations completed and erected by our own highly skilled teams.

of vital interest to you



TYLER

precast reinforced concrete **INDUSTRIAL BUILDINGS**

If you have a building problem or an extension to existing premises query—why not get into touch with Tylers of Tonbridge? Our assistance is prompt—and practical—and you have the benefit of actual manufacturer's prices. Send for our interesting literature.

E. W. TYLER & CO. LTD., Verdant Works, Cannon Lane, Tonbridge, Kent. Tel: Tonbridge 4024
(6 LINES)

continued from page 156

but it is clearly unwise to allow ourselves to be ruled by experts.

Rather more space has been taken up with this matter of 'lunatic' street lighting than its importance merits, because architects are often most insistent that one or other of these methods should be tried, as a means of evading the need for the 'forest of concrete poles' which bedecks the streets of Subtopia. Experiments should certainly continue on new and unorthodox methods of street lighting, but it is less expensive if these are conducted on scale models and proved to work before being attempted on a full scale.

Only a rash man would see any future for these unorthodox methods of lighting traffic ways. Development is much more likely to lie with

tion of a city area—complete cut-off of the street lights can be deadening. High mounting again can reduce the amount of clutter. Some of the Continental installations have pointed the way—the areas around the forecourts of the railway stations at Zurich and at Eindhoven are two excellent examples of improved urban lighting.

The lighting of residential streets shares some of the problems of the lighting of domestic interiors—people know what they want, and it is not what the technician tells them they ought to want. Local residents are often zealous to maintain the 'character' of their neighbourhood, and lighting appropriate for one neighbourhood may be quite unsuitable for another. Careful collaboration between residents and designers may

8

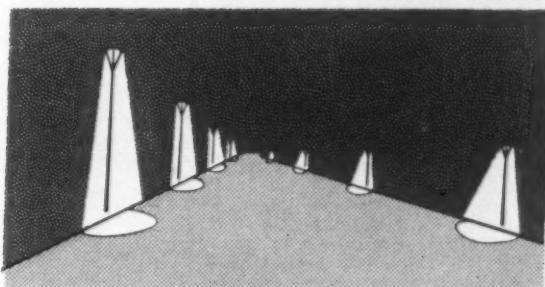
systems of very high mounting, and architects who feel the need to improve the appearance of our traffic routes would do well to direct their attention there. Very high mounting, of the order of 50 feet high, with powerful luminaires, permits much wider spacing of the units. There can be fewer poles. It would be possible, now, with the newest lamps and techniques, to light a motorway from high mounted cut-off units on poles set only in the central reservation. The hazards of accidents caused by cars running off the carriageway into the reservation must in any case be eliminated, quite apart from the additional problems raised by the presence of the lighting equipment. The experiments in the USA and elsewhere with dense hedges of tangled quick-growing briar would go far to solve the problem of accidents from collisions with the lighting poles. Lighting of this kind would be glare-free, and comfortable for long drives because of the absence of the distractions of bright lights just above the carriageway where one should be looking.

For urban streets the solutions are more varied. In built-up areas, considerations of design should rank at least as high as those of efficiency. Upward light, which is wasted in the open road, illuminates buildings in a city and adds to the background, which helps to buffer any glare present. Complete elimination of all visible brightness of the luminaires is not desirable. There should be no discomfort, but to see the bright lights adds to the interest and attrac-

lead to a more satisfying result than could be given by a solution on mere technical grounds. Technical considerations are not entirely negligible, but they may not be all-important. There is clearly some useful work for the architect to do here.

There is much which could be said about the choice of light source. The golden-yellow sodium lamp at the moment carries all before it because it gives so much more light per unit of electric power—recent developments by one firm have achieved the magic figure of 100 lumens per watt, the four-minute mile of the lamp man. Other more efficient lamps with better colour may be developed in the future but nobody outside the lamp firms has heard much about them yet, so it is likely that our traffic ways will be lit by sodium lamps for some time to come. The tubular fluorescent lamp has caught on, surprisingly in view of its enormous size, for shopping centres, but the newer 'compact' colour-corrected mercury lamps may prove more amenable to skilled design of luminaire. The filament lamp and the gas lamp still hold on here and there but they have little future.

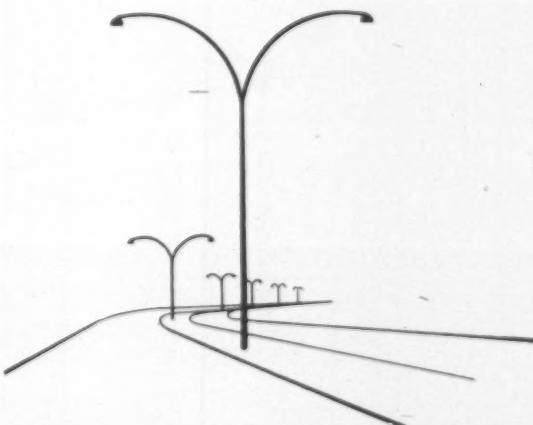
One might conclude with a suggestion that architects and street lighting engineers might get together at a summer school, run perhaps by an institution like the York Institute for Advanced Architectural Studies, and put their respective points of view forward for discussion. A great deal of good might come out of such a meeting. It is late to make a start, but not too late.



7. low mounted lamps produce small pools which are insufficient to illuminate the whole road. They will illuminate people, but not very well. Visibility will be insufficient for safe driving without headlights. Left, 10-ft. lamps; right, 5-ft. lamps.



8. the British system, if carried to the limit of the doctrine that more of a good thing must be better, leads to a forest of poles by day and excessive glare by night. 9, a photograph of the A41 road, shows that the sketch is no exaggeration.



10. perhaps the motorway lighting of the future will be from very high mounted luminaires very widely spaced, with Continental-type anti-glare units. There may be a screen or rose-hedge between the carriageways. This type of lighting is already successful on the Continent.

THE INDUSTRY

Aluminium wall cladding

A new system of aluminium wall cladding developed by British Aluminium last year has been used for the first time on a major project at Longbenton, near Newcastle-upon-Tyne, 1. The sheets have a bold profile and a cover width of 12 in. Lengths up to 40 ft. are available. Normal fixing is to angle or channel or timber girts and where concealed fixing is required a clip is hooked over the single upstand of the panel and secured to the girt. The double upstand of the next panel, which is filled with caulking compound at the factory, is pressed over the first panel and the three thicknesses of the seam are then clenched with a button punch above and below each clip. No drilling or hole-punching is necessary and the cladding is quickly and simply fixed.

The British Aluminium Co. Ltd., Norfolk House, St. James's Square, London, S.W.1. (Whitehall 7868.)

Reconstructed stone

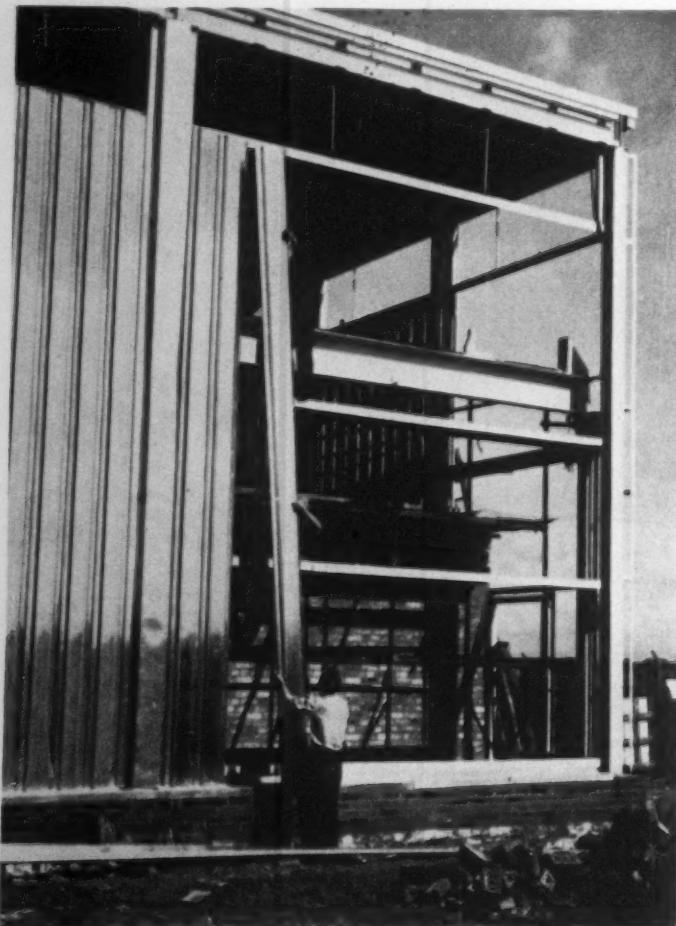
Manufacturers of reconstructed stone view with concern the growing tendency over the past few years towards the use of smaller and smaller sections of stone in the design of buildings. The concern is that smaller sections, being less robust, are subject to damage in handling and fixing, resulting in unnecessary delays on site whilst replacements are made.

One of these manufacturers, John Ellis & Sons Ltd., who specialize in reconstructed stone comprising a facing of crushed natural stone and white cement with a backing of granite concrete, has put forward recommendations to architects for suitable minimum sizes of stone. These are that the minimum dimension of any section should be 2½ in. and the minimum cross sectional area of any one piece 11 sq. in. Cross sectional areas determine maximum lengths and these are for 11 sq. in. cross section 3 ft. long, for 30 sq. in. 4 ft. long and for 45 sq. in. 6 ft. long.

Although this manufacturer points out that he does not wish to dictate to his customers, architects would be well advised to be guided on this by the man who makes the material. *John Ellis & Sons Ltd., 29 Dorset Square, London, N.W.1 (telephone Ambassador 1141-2).*

PVC in floors, windows and handrails

The term pvc, when it is applied to floors, covers a wide variety of products. In this country it is common practice to use pvc in a laminate in conjunction with some cheaper filler. This produces a floor which possesses some of the qualities of pvc (among them easy cleaning), but which is comparatively hard to the foot (pvc is characteristically soft and springy), will show indentations and which has a life limited



1. Rigidal Seamwall aluminium wall cladding.



2. sheet steel floor tiles being laid on a screed. The shaped tangs pressed out of the sheet are embedded in the screed.

by the time it takes to wear through the top pvc layer. In Germany (the first home of pvc floors) it is customary not to use filler, but to make floors which are pvc all through. These are softer, keep their good appearance until the full thickness is worn through (which takes a very long time) and have the advantage that sheets can be welded *in situ* to produce a jointless floor. A German floor of this type, Mipolam, is now available in this country. It can be obtained in two thicknesses, 2 mm. and 3 mm. The 2 mm. is available in seven plain and seven marbled colours and costs in the region of 26s. per sq. yd.; the 3 mm. thickness is available in fifteen plain and fifteen marbled colours and costs about 39s. per sq. yd. This same material, marketed under the same name, is also available from Ideal Casements (Reading) Limited as a covering for plastic covered box section steel window frames, and from Wiggins Sankey Limited as a hand rail covering.

*B. J. Hamlin Limited, Greener House, 66-68 Haymarket, London, S.W.1.
Ideal Casements (Reading) Limited, Reading, Berks.
Wiggins Sankey Limited, Wyfold Road, London, S.W.6.*

Industrial floor coverings

A suitable floor finish for factories, warehouses or any industrial buildings always presents a problem. The fact that certain parts of the floor, such as truckways and loading bays, receive very much more and heavier traffic than others must be taken into account in considering types of finish in terms of both first and maintenance costs.

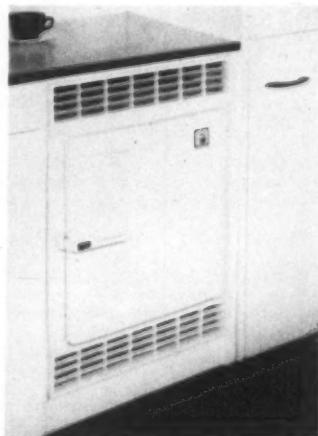
The Owen organization has produced a sheet steel floor tile (18 in. by 12 in. by 10 gauge) which is suitable for the heaviest of traffic, 2. The two long edges of the tile are bent downwards and these are embedded in the concrete screed when the tiles are laid. In addition, shaped tangs are stamped in the sheet and these bent downwards to an angle of 45 degrees so that they also are buried in the screed. The idea is that the tiles must be laid on the screed whilst it is still green and pressed into it. The manufacturers recommend that this screed should comprise 1½ parts gravel, 2 parts fine sharp sand and one part cement and that the mix should be plastic and slightly on the dry side. Tiles placed in position should be tapped level with a hammer and surplus cement, which is forced through

the tang holes and joints, cleaned off with a damp rag.

Rubery Owen & Co. Ltd., Whitegate Factory, Wrexham, N. Wales.

Refrigerator

It is an encouraging sign that the manufacturers of kitchen equipment—cookers, refrigerators, sinks—and the joinery manufacturers are keeping an eye on the standardization of dimensions in kitchen planning. This means that the planning of a kitchen is considerably facilitated by the interchangeability of elements and,



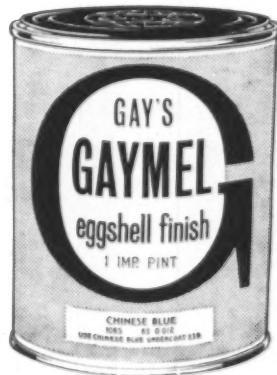
3. the Electrolux M.B.16 refrigerator.

goodness knows, the kitchen is one place in the house where there is a greater concentration of equipment and gadgets than anywhere else.

The refrigerator, in the popular English size, is suitable for installing under the work bench and the new Electrolux model MB16, 3, is a recent development of this type. It has a shelf area of 3½ sq. ft. and a capacity of about 1.6 cu. ft. It is available in white or cream high gloss finish suitable for operation by gas or electricity. It is designed to fit into a recess measuring 28½ in. high, 19½ in. wide and 18½ in. deep, excluding door fittings. Price is £36 13s. 4d. (including purchase tax) for either electric or gas, but they are available only to builders, estate developers and local authorities and not, presumably, to the general public.

Electrolux Limited, 153/5 Regent Street, London, W.1. (Regent 7252.)

[continued on page 160]



GAYMEL EGGSHELL FINISH

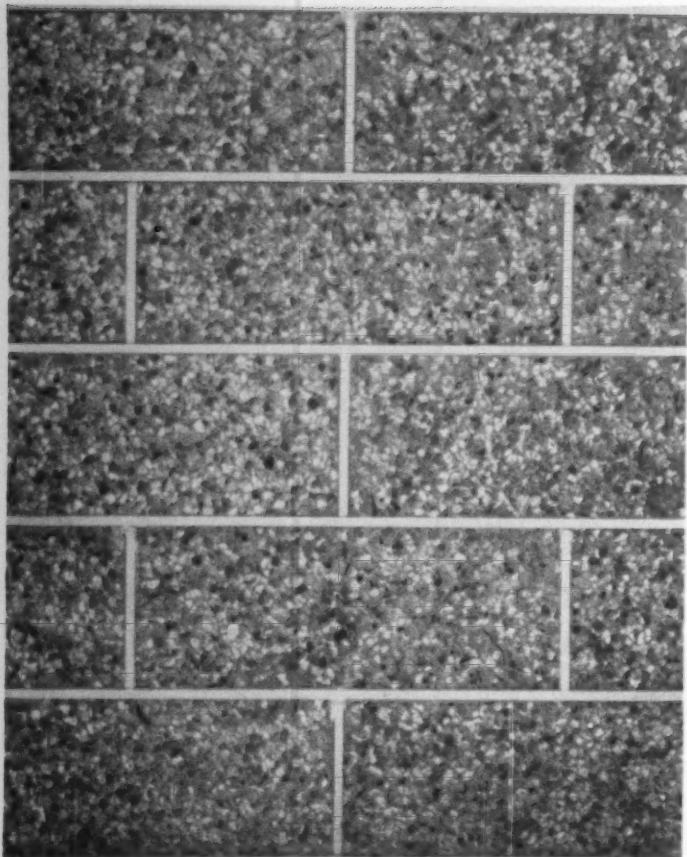
First came Gaymel Gloss Finish, then the new Gaymel Flat Finish and now GAY's introduce a further addition to their superb range—GAYMEL EGGSHELL FINISH.

This is an exceptionally high quality finish for interior use. It gives a true 'eggshell' sheen with a toughness and durability that withstands frequent washing. Gaymel Eggshell Finish has a semi-paste consistency and can be applied coat on coat—without a separate undercoat—by brush, roller or spray. It is available from stock in 36 intermixable colours selected from Gay's Architect's Range. For really top class results, with less time and labour, specify GAYMEL EGGSHELL FINISH, another sound paint by Gay's.



Write for full information and shade cards to:—

R. GAY & CO. 93/97 New Cavendish Street, London, W1



4. 'Gravatex' exposed aggregate blocks.

continued from page 158]

Exposed aggregate blocks

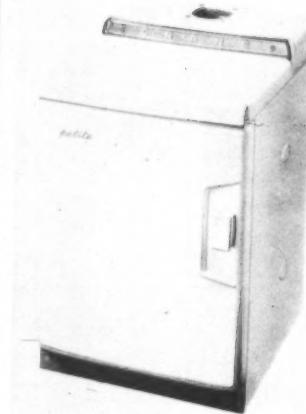
The idea of providing an exposed aggregate finish to concrete blocks has been taken up by Ebor Concretes Ltd., who are producing a standard block, which they call 'Gravatex,' 18 in. long by 6 in. high by 4 in. wide. The facing—a range of prepared aggregates with either natural or coloured Portland cement—is backed with foamed slag concrete to make up the full thickness of the block. The blocks are light (95 lb. per cubic foot) and the manufacturers claim that, used in two thicknesses with a 2 in. cavity for external walling, they have a U value of 0.16. In addition to the standard size unit quoins are made and also rectangular and boot shaped lintels to match the finish of the standard blocks.

Ebor Concretes Ltd., Ure Bank, Ripon, Yorks. Telephone Ripon 1601.

Small boiler

A new small oil-fired boiler called the 'Crane Petite,' 5, has just entered the market. It is designed to heat a storage cylinder of 30.35 gallons capacity which, the makers say, would satisfy the needs of the average family (250 to 450 gallons a week) in the medium size house. In addition it will heat a towel rail and an airing cupboard or one radiator of up to 20 sq. ft. heating surface including pipes.

The oil burner is of the natural draught vaporizing short drum type, gravity fed. It is lit by hand (match or taper) and heat control is by thermostat which regulates water temperature. The manufacturers say that an oil storage tank of 50/60 gallons capacity, costing £5, can be used, but point out that fuel costs reduce with increases in the size of



5. the 'Crane Petite' boiler.

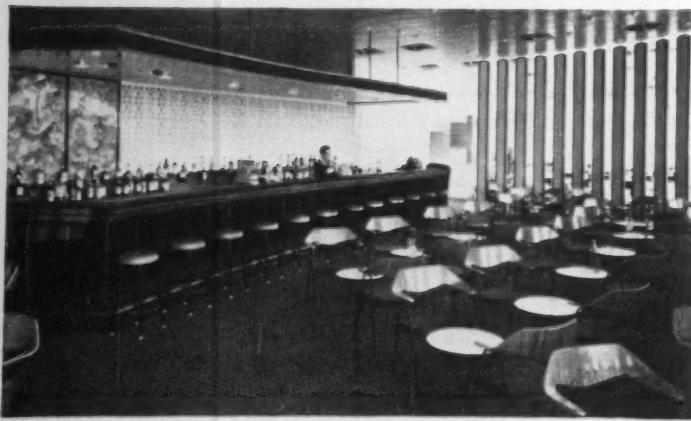
tanks. The oil used is of the vaporizing domestic type costing between 1s. 4½d. and 1s. 8½d. per gallon. Oil consumption varies from one-fifth pint per hour on low flame to three-quarters pint per hour on high flame. Flow of oil is controlled by thermostat. The makers advise that the chimney, into which the flue from the boiler discharges, should be either brick lined or have an insulated precast concrete or insulated asbestos flue. The industry generally has found that problems of condensation have been learned by experience.

In appearance the boiler is very trim and it will be an alert housewife who does not occasionally put a bottle of milk or the week-end joint in it, mistaking it for other pieces of

[continued on page 162]



Guest Lounge, carpeted in 'Rhapsody' textured Wilton in shades of rich purple



Cocktail Lounge, carpeted in 'Deva' fine woollen Wilton in lacquer red

Skyway Carpets

All the fine carpets in the new

SKYWAY HOTEL at London Airport have
been made and installed by Carpet Trades
Limited, Kidderminster (supplied through
Messrs. Andrew Bruce & Co. Ltd. London).

CARPET TRADES LIMITED
G.P.O. BOX 5, MILL STREET, KIDDERMINSTER

Carpets are supplied only
through normal trade channels.





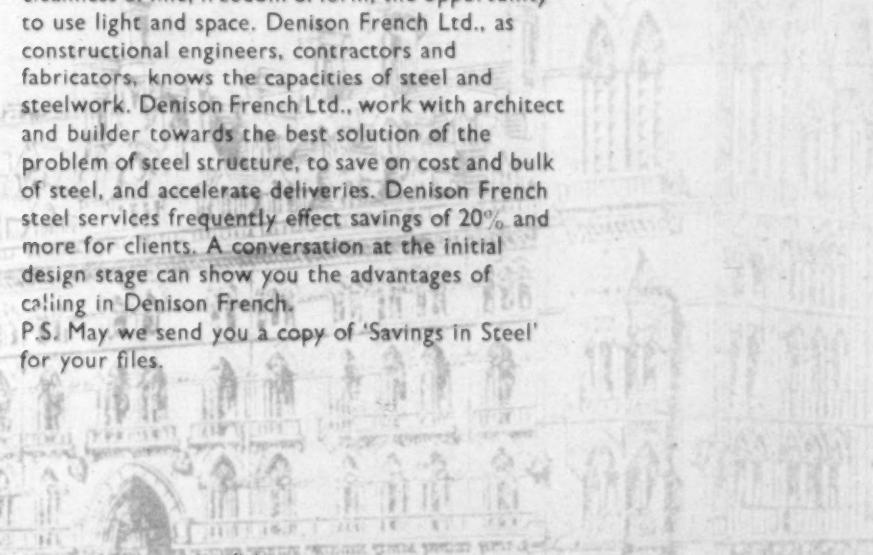
Denison French

and the death of St. Pancras Gothic.

Sir Gilbert Scott thought his St. Pancras possibly too good for its purpose—if ever he held its purpose in mind. The dirt and steam of antique locomotives, have buried its Gothic glories under a shroud of grime, and the traveller shivers in the medieval discomfort of a dark waiting room. Steelwork for today's station will give the architect cleanliness of line, freedom of form, the opportunity to use light and space. Denison French Ltd., as constructional engineers, contractors and fabricators, knows the capacities of steel and steelwork. Denison French Ltd., work with architect and builder towards the best solution of the problem of steel structure, to save on cost and bulk of steel, and accelerate deliveries. Denison French steel services frequently effect savings of 20% and more for clients. A conversation at the initial design stage can show you the advantages of calling in Denison French.

P.S. May we send you a copy of 'Savings in Steel' for your files.

Denison French Ltd.
Constructional Engineers
67 Chancery Lane, London, W.C.2
Telephone: HOLborn 2587.



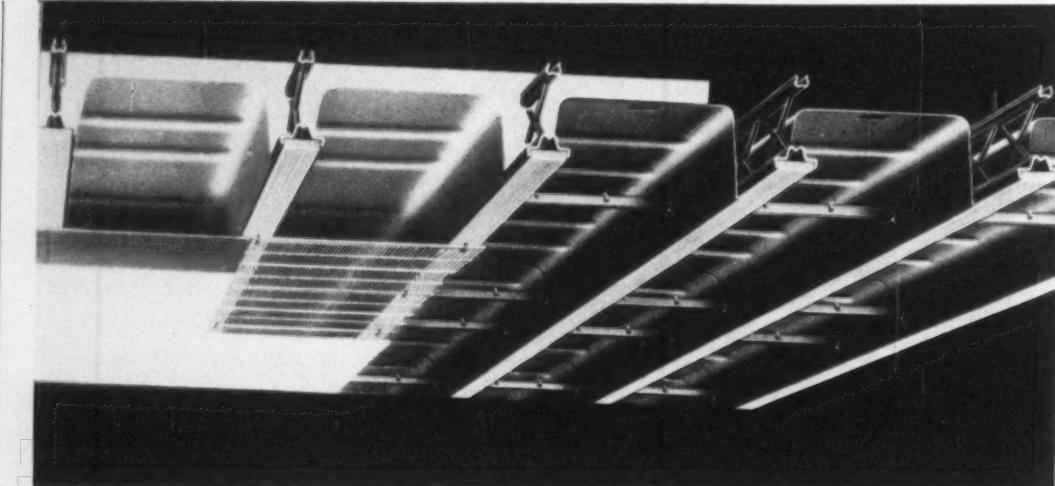
continued from page 160

kitchen furniture. It is in fact 'petite,' being 18 in. deep by 15½ in. wide by 23½ in. high and retails at £45. Bower-barbaffed or glass-lined firepots are supplied to order (for soft water districts) costing £3 1s. 6d. and £3 5s. respectively.
Crane Ltd., 118, Wigmore Street, London, W.1.

Steel decking

A unique system of steel decking units and lattice beams for suspended concrete floors, known as the Kaiser Flooring System, has come to this country from Germany and British licence rights are held by P.C. Floors Ltd.

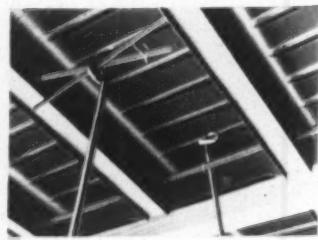
The first element of the system is a steel lattice beam, 6, which is made in three standard sizes according to load and span (maximum span 33 ft.). The depth of this beam is 5½ in. and the sizes refer to the diameters of the two rods which make up the bottom flange of the beam. These are 8, 10 and 12 mm. respectively. This beam is used to support the decking units during pouring and subsequently acts as reinforcement for the ribs of the finished concrete floor. The second element is a 14 gauge sheet steel decking unit of an inverted trough section, which acts simply as formwork for concrete, can be 'struck' two days after casting and, consequently, is reusable. The method of supporting the decking is quite ingenious. Each section of trough has a pair of cross bars inserted through slots on either side before erection. Only one of the pair protrudes through the slot on either side and its end rests on a continuous timber fillet fixed to the underside of the bottom flange of the beam.



6, the Kaiser flooring system, 7 (below), method of removing decking units.

This fillet remains permanently in position and can be used for the fixing of services, false ceilings, etc. To remove the decking unit, 7, a hooked striking pole is looped over the pair of bars together and they drop out of their slots in a scissor action.

Accessories include an end plate for the decking units and a flat plate which may be fixed between beams instead of the decking unit where the additional thickness of concrete is required. Although the decking units are made in one size only, three different thicknesses of concrete slab may be obtained with the units. This is achieved by having the slots for the cross bars at three alternative positions (one above the other) in the sides of the decking unit.



P.C. Floors Ltd. quote for the supply of beams and the hire of decking units, cross bars, end plates, etc. Prices are based on the beam sizes. 8 mm. costs 16s. per sq. yd., 10 mm. 18s. and 12 mm. 20s. These

figures include delivery of all materials to the site and collection of the hired items on completion.

P.C. Floors Ltd., 64-66 Battersea High Street, London, S.W.11 (telephone Battersea 9221).

CONTRACTORS etc

Undergraduate Rooms, Oxford. Architects: The Architects' Co-partnership. General contractor: Benfield & Loxley Ltd. Sub-contractors: Mild steel rod reinforcement: The Helical Bar & Engineering Co. Asphalt tanking and

[continued on page 164]



RACE

lecture theatre
seating

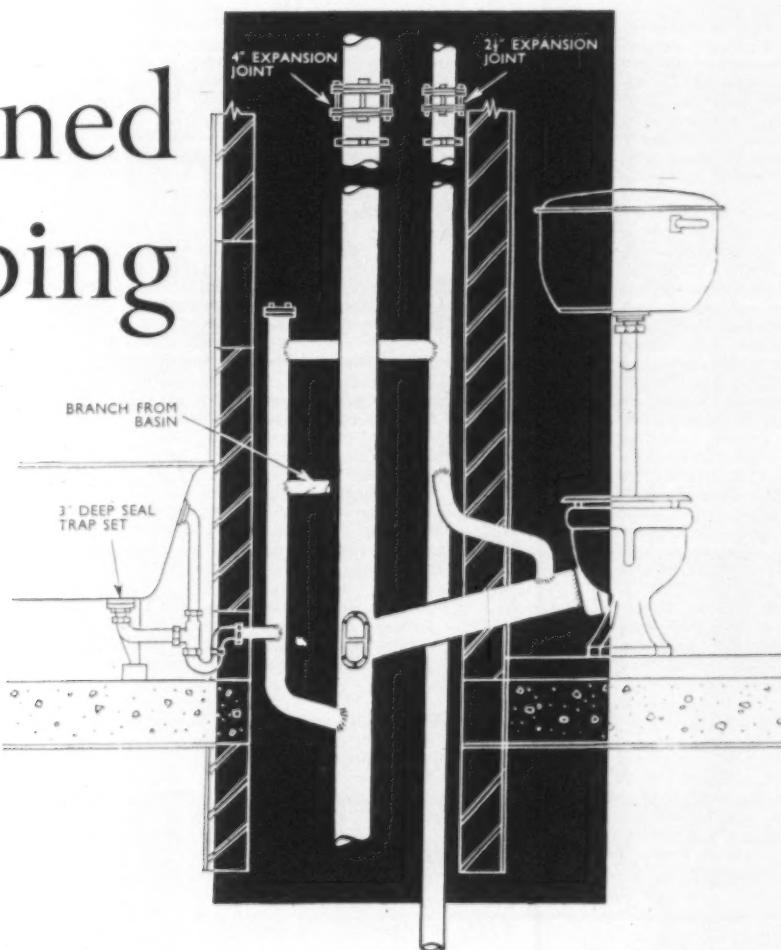
Race furniture 22 Union Road Clapham sw4 Macaulay 2215/7

Rows of any length in this seating can be transported economically and assembled on site. It is adaptable to any step height or for fixing to a flat floor; backrests can be adjusted to accommodate a writing shelf at the correct height for the row behind. Seats have a simple gravity self-tipping action and are covered in a heavy quality P.V.C. coated fabric. Steel uprights stove-enamelled; writing shelves and pre-formed plywood backrests (upholstered if preferred) of lacquered mahogany

Write or telephone for
further information

Seating in Glasgow University
Architect: Basil Spence & Partners

Planned plumbing



Prefabricated plumbing in smooth bore copper has many advantages in terms of SPEED OF INSTALLATION; ADAPTABILITY TO INDIVIDUAL DESIGN; and long, trouble-free life. Close contact in early stages between the Architect and Econa can relieve even the most stubborn plumbing headache.



ECONA MODERN PRODUCTS LIMITED, HIGHLANDS ROAD, SHIRLEY, SOLIHULL. Telephone: SOLihull 4981

continued from page 162]

roofing: F. J. Prater Asphalte Co. **Sliding door track:** E. Hill Aldam & Co. **Semi-engineering bricks, sanitary fittings:** Stephenson & Co. (Oxford) Ltd. **Facing bricks:** Hall & Co. **Electrical installations, floor warming:** Lowe & Oliver Ltd. **Water services and fire main, plumbing:** F. Church Ltd. **Ventilation:** Andrew Air Conditioning Ltd. **Balustrading:** The Morris Singer Co. **Metal windows:** The Crittall Manufacturing Co. **Window control gear:** Teleflex Products Ltd. **Aluminium alloy glazed windows:** Quicktho Engineering Ltd. **Timber window frames, bronze finials, staircase handrails:** Samuel Elliott & Sons (Reading) Ltd. **Asbestolite window panels:** Dural Autos Ltd. **Double glazed units, plate glass mirror:** Steeles Ltd. **Roofing slates:** Setchell & Sons Ltd. **W.c. partitions and doors, bathroom doors:** Venesta Ltd. **Dome lights:** T. & W. Ide Ltd. **Lino floor tiles:** Hollis Bros. Ltd. **Lightweight screeds:** Celeno Ltd. **Lightning conductors:** R. C. Cutting & Co. **Terrazzo paving:** Alan Milne Ltd. **Picture rails and curtain tracks:** Silent Gliss Ltd. **Fire extinguishers:** The General Fire Appliance Co. **Flush doors:** F. Hills & Sons Ltd. **Pinoleum and venetian blinds:** London Blinds Ltd. **Ironmongery:** Allgood Continental Ltd. **Lighting fittings:** Fredk. Thomas & Co. **Photo mural:** The Autotype Co. **Stone paving and bollards:** Brooks Ltd. **Bicycle racks:** Le Bas Tube Co. **Granite:** Cornish De Lank Granite Quarries Co. **Stone:** South Western Stone Co. **Reconstructed stone-work:** Constone Ltd. **Thermal insulation:** Expanded Rubber Co.

Factory at Basildon New Town. **Architect:** Anthony B. Davies, Chief Architect-Planner, Basildon Development Corporation. **General contractor:** Holland & Hannen and Cubitts. **Sub-contractors:** Structural steelwork: Scaffolding (Gt. Britain) Ltd., suc-

ceeded by Constructional Units Ltd. **Windows and external doors:** Crittall Manufacturing Co. **Roof-lights:** British Challenge Glazing Co. **Window control gear:** Teleflex Products Ltd. **Pre-stressed concrete floors:** Pierhead Ltd. (Engineering Division). **Metal decking:** Robertson Thain Ltd. **R.c. chimney stack:** Tileman & Co. **Water tower:** Fredk. Braby Ltd. **Glazed metal partitions:** Sankey Sheldon Ltd. **Terrazzo paving and partitions:** Art Pavements & Decorations Ltd. **Hardwood strip flooring:** Acme Flooring & Paving Co. **Hand-rails and balustrades:** Allen & Greaves Ltd. **Incinerator:** Incinerator Company. **Fencing:** A. J. Binns Ltd. **Main entrance gates and access ladders:** Constructional Units Ltd. **Acid resisting tiling:** Leeds Fireclay Co. Ltd. **Roof ventilators and extract fans:** Brooks Ventilating Units Ltd. **Dome lights:** T. & W. Ide Ltd. **Rubber doors:** W. Langley & Co. **Protective paints:** Evode Ltd. **Decorative paints:** Imperial Chemical Industries Ltd. **Concrete water-proofers:** Sika Ltd. **Sanitary fittings:** Shanks & Co. **Vitreous enamelled panels:** Stewart & Gray Ltd. **Vitroslab and plyglass:** Plyglass Ltd. **Roller shutters and fire doors:** Potter Rax Ltd. **Whitwick facing bricks:** National Coal Board. **Colourglazed ceiling boards:** Turners Asbestos Cement Co. **Aluminium canopies:** Bainbridge Bros. (Engineers) Ltd. **Pressed metal door frames:** Crittall Manufacturing Co. **Woodwool roof slabs:** Thermacoust Ltd.

Restaurant and Coffee Bar in King's Road, Chelsea. **Designers:** Conran Design Group. **Shopfitting work:** Conran Contracts. **Loose furniture:** Conran Furniture, Finmar. **Light fittings:** Danasco, Atlas.

Church at Leeds. **Architects:** Walker and Biggin. **General contractors:** L.

Garbutt Ltd. **Sub-contractors:** Altar, art stone: Girlings Ferro-Concrete Co. Ltd. **Furniture, metalwork and cabinet work:** Pickering (Shopfitters) Ltd. **Decorations:** J. S. Thorpe. **Flooring:** J. H. Hewetson Ltd. **Electrical installation:** Baker and Hyman Ltd. **Sculpture work, decorative frieze bands, crucifix, altar base:** Jill Messenger. **Stained glass:** Roy Lewis.

Regent's Park Housing Redevelopment. **Architects:** Armstrong & MacManus. **General contractors (contract 1):** H. Fairweather & Co. **Sub-contractors:** Piling: Piling & Construction Co. **Facing bricks:** Cape Building Products Ltd. **Heating, ventilation:** Weathercoil Ltd. **Passenger lift installation:** Express Lift Co. **Wood windows and doors:** John Sadd & Sons. **Roof lights:** Quicktho Engineering Co. **Fire-resistant panels:** Vitreous Enamellers (Slough) Ltd. **Plastic tile flooring:** Marley Tile Co. **Maintenance equipment:** Palmer's Travelling Cradle & Scaffold Co.

St. John's Church, Hatfield. **Architects:** Lionel Brett, Kenneth Boyd and P. H. Bosanquet. **General contractor:** Abbins & Hale Ltd. **Sub-contractors:** Cork tile flooring: Rowan & Boden Ltd. **Roof structure:** Rainham Timber Engineering Co. **Window control gear:** Arens Controls Ltd. **Altar frontal:** The Warham Guild Ltd. **Steel balustrade:** Best & Lloyd Ltd. **Pulpit, altar and font:** Walker-Symondson Ltd. **Indirect nave lighting fittings:** Holophane Ltd. **Doors:** Woodworth Joinery Ltd. **Aluminium windows:** Henry Hope & Sons Ltd. **Pews:** The Faith Craft-Works Ltd.

Offices near Runcorn, Cheshire. **Architect:** Frederick Gibberd. **General contractors:** Gilbert Ash Ltd. **Sub-contractors:** Bitumetal roofing: William Briggs & Son. Fibrous plaster acoustic

tile false ceiling: Petradene Ltd. **Steelwork:** Fleming Bros.; S. C. Walmsley Ltd. **Special joinery:** Burke & Son. **Special joinery to main conference room:** Bath Cabinet Makers Ltd. **Window gear:** Teleflex Ltd. **Roofing:** Ruberoid Ltd. **Venetian blinds:** J. Avery & Co. **Flooring:** Granwood Floors Ltd. **Hardwood floors:** Horsley Smith Ltd. **Cork flooring:** Cork Insulation Ltd. **Balustrade to main staircase:** H. H. Martyn Ltd. **Sanitary fittings:** Adams Ltd. **Timber windows:** East & Son Ltd.

Advertisements

ALL-GAS HOUSE ARCHITECTURAL COMPETITION

The Scottish Gas Board invite architects resident in the United Kingdom to submit designs for an All-Gas House which will exploit and demonstrate the possibilities of gas as a means of heating, cooking, water heating, refrigeration and home laundry. **Assessor:** Professor Frank Fielden, M.A., F.R.I.B.A. **Premiums:** £250, £150, £75. Last day for submitting designs 26th September 1960. Conditions may be obtained from The Commercial Manager, The Scottish Gas Board, 1, Rothesay Terrace, Edinburgh, 3. No deposit. An applicant for the conditions must state his registration number.

HARLOW DEVELOPMENT CORPORATION

Architect Planner: Frederick Gibberd, C.B.E., F.R.I.B.A., M.T.P.I. **Executive Architect:** Victor Hammett, B.Sc., A.R.I.B.A., A.M.T.P.I.

STAFF VACANCIES

Vacancies occur within the following grades for staff to work on industrial buildings, housing, theatre, offices, shops and similar programme of work in the town of Harlow: **Architect:** APT.VI, £1,163-£1,390. **Architect:** APT.V, £1,220-£1,375. **Assistant Architect:** APT.IV, £1,065-£1,220. **Assistant Architect:** APT.III, £880-£1,065. **Assistant Architect:** APT.II, £765-£880. **A.R.I.B.A.** required for Grade III upwards. Housing available. Applications with full details to be sent, within ten days, to the General Manager, Terlings, Harlow, Essex.

The AUTO-STACKER key to the parking problem



Cut-away section shows 8-floor Stackers attached to a six-storey building, with room for double parking on each side of the hoist. Cars are turned through 90° at ground level by a turntable on the hoist.



Britain's first fully automatic parking garage

The Borough of Woolwich has placed a contract for the first entirely automatic Multi-Storey Parking Garage in Great Britain. Known as the Autostacker and occupying a ground area of 116' x 54' it will have a capacity for 256 cars which will be parked by the most economical system yet devised and at the lowest capital cost.

We will welcome enquiries from any Authority, Property Owner, or Garage Operator and our Engineers are available for consultation.

A brochure is available upon request.

AUTO-STACKERS LIMITED

a company associated with John Brown & Co. Ltd., & Standard Telephones & Cables Ltd.

20 EASTBOURNE TERRACE, LONDON W.2. Telephone: PADDINGTON 3474. Cables: JABEND, LONDON



Sir John

**would have
been keen on**

KEE KLAMPS

Registered Trade Mark

Soane's work at the Bank of England has been praised for the freedom in the handling of proportion and his adventurous approach to structure and lighting. The adaptability of the Kee Klamp system of tubular construction would, no doubt, have made an immediate appeal to a mind so open to new solutions.

Kee Klamp Engineers, qualified to advise, are freely available to discuss applications of this system.

**GEO. H. GASCOIGNE CO. LTD.
579 GASCOIGNE HOUSE, READING, BERKS**
Telephone READING 54417 (3 lines)





Curtain Walling is quick
but this new WALLSPAN
beats the lot

FACTS

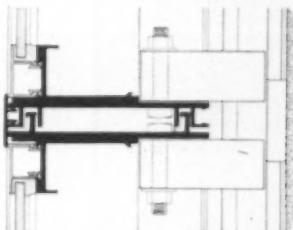
A new type of Wallspan makes its debut on the tower of Castrol House—a prefabricated Wallspan designed in collaboration with the architect that goes up more quickly than any curtain walling system yet devised. Williams & Williams developed it specially to fit in with a tight building schedule—18 months from start to finish.

The main feature of prefabricated Wallspan is that its mullion is split vertically in half. This allows it to be sup-

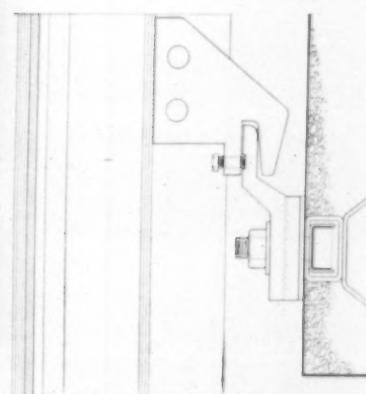
plied in complete prefabricated panels 2 floors high, with the double-hung windows already in place. Each panel is simply hung on to its fixing spigots, plumbed, then interlocked with its neighbour. The walls of the tower block were erected at the rate of 2 floors a week: the interior trades were able to move in and get on with their job fully protected while the floors above were still being clad.

The vertical section shows how the

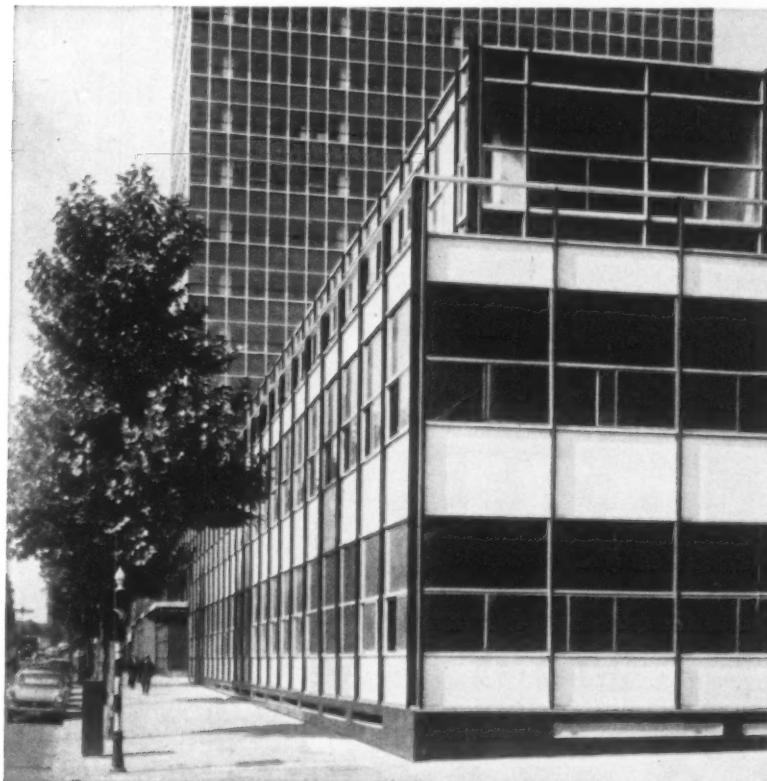
prefabricated Wallspan is literally hung on to the frame. It is curtain walling in the truest sense, and although designed in the first place specifically for Castrol House, the system is now generally available—a classic example of co-operation between the architect and the curtain walling specialists.



Horizontal section at infill level. Each half mullion forms the edge of a prefabricated panel. When the two panels are brought together, the joint is sealed with Thiokol mastic and an aluminium capping is then clipped on to seal the joint finally.



Vertical section showing fixing detail. As the floor slab is cast, bolts are built in ready to receive the fixing spigots. These are adjustable vertically and horizontally to allow for slight inaccuracies. Hooks on the Wallspan panels engage over the spigots and are kept firmly in place by compression bolts.



CASTROL HOUSE, MARYLEBONE ROAD, LONDON—
new offices for C. C. Wakefield & Co. Limited.
A development of the Hammerson Group of
Companies.
ARCHITECTS: Golins, Melvin, Ward and Partners.
CONTRACTORS: Sir Robert McAlpine & Sons Ltd.

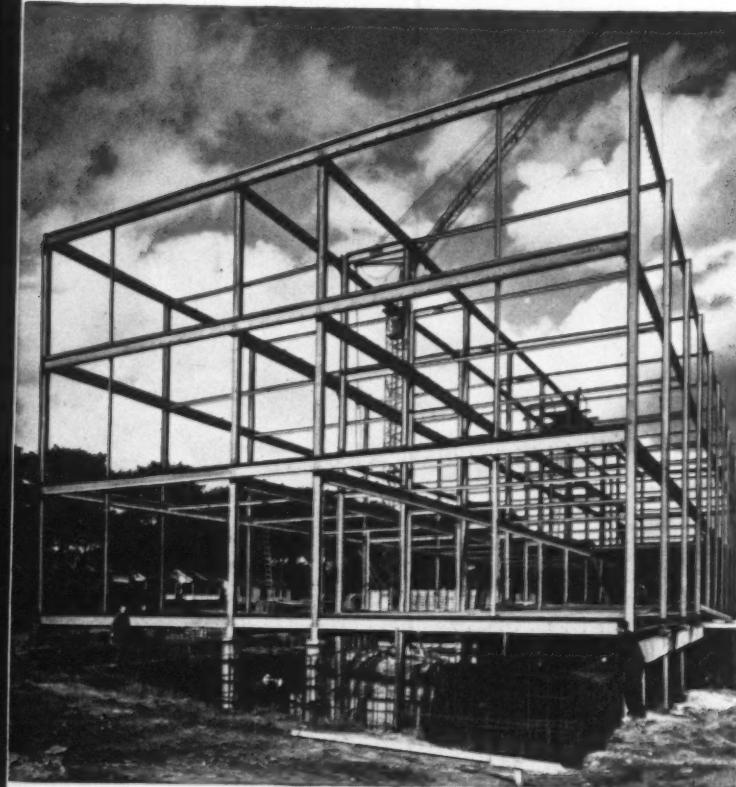
forward looking building products

WILLIAMS & WILLIAMS

Williams & Williams make steel windows of every description, ALOMEGA and other aluminium windows, ROFTEN movable steel partitioning, ALUMINEX patent glazing, WALLSPAN curtain walling and many other products, all of which can be seen at our permanent exhibition at 36, High Holborn, London, W.C.1

WILLIAMS & WILLIAMS, RELIANCE WORKS, CHESTER · WILLIAMS HOUSE, 37-39 HIGH HOLBORN, LONDON, W.C.1

NOW
and
in
the
future...STEELWORK



Sowerby Bridge Secondary School.

is quicker, more flexible
and is *CHEAPER*



AUSTINS

JAMES AUSTIN & SONS (DEWSBURY) LTD
THORNHILL IRON & STEEL WORKS, DEWSBURY, YORKSHIRE

Telephone: DEWSBURY 1750 (7 Lines) Telegrams: AUSTINS, DEWSBURY, TELEX 55-129

Howland's School Chairs stand the closest inspection

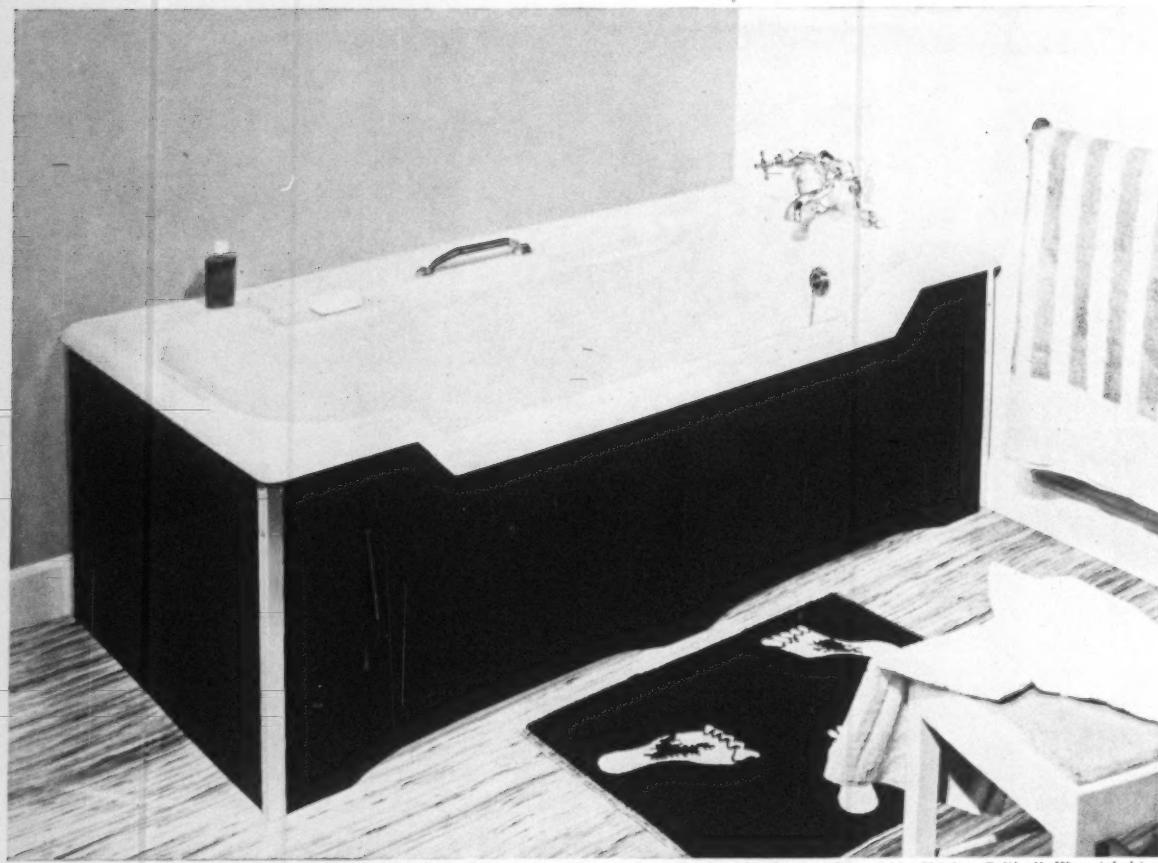


The little chair illustrated is one of five sizes, manufactured to British Standard Institute specification, well designed, well made and finished, and above all most competitive in price, so that all schools can afford the luxury of a Howland chair.

These are some of the many reasons why this range of chair has been included in the three class Primary School designed by the County Architect of Nottingham, the main British exhibit at the Milan Triennale 1960.



A. & F. Howland (Wycombe) Ltd.,
Eaton Avenue Works,
HIGH WYCOMBE, BUCKS, ENGLAND.



'Crelene' bath made from 'Perspex' acrylic sheet by Troman Bros. Ltd., Shirley, Solihull, Warwickshire.

Baths in 'Perspex' have it all,—colour, strength, light weight and reasonable price

THIS is one of several luxury baths now being made from 'Perspex' at a very reasonable price. Its high gloss finish is no surface coating—the colour and consistency of the sheet are the same throughout.

A bath made from 'Perspex' will not rust or corrode, is unaffected by boiling water, disinfectants and household

cleaning fluids and is easy to keep clean. A bath with the luxury look can be made in 'Perspex' without the normal high extra cost. And its light weight makes it easier to install than a conventional bath.

Baths are made from 'Perspex' by: P. & S. Plastics Ltd. ('Cleopatra'); Henry Robinson (Fibres) Ltd. ('Clent'); Thermo Plastics Ltd.; Troman Bros. Ltd. ('Crelene').

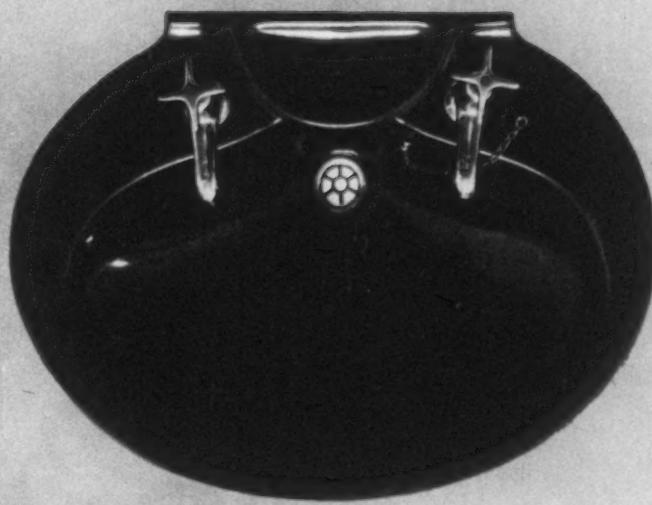
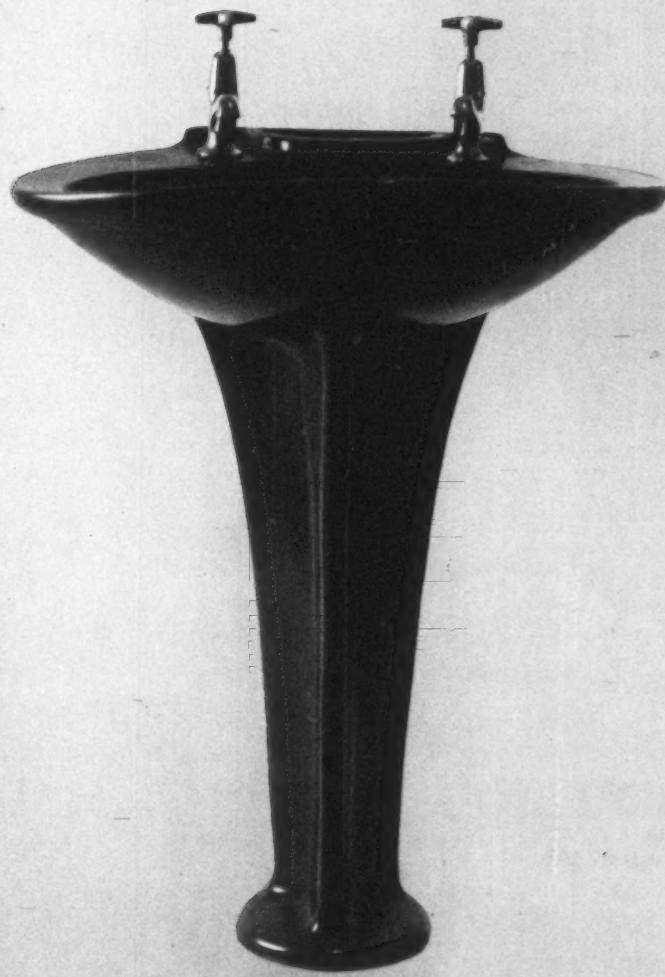
• PERSPEX •

'Perspex' is the registered trade mark for the acrylic sheet manufactured by I.C.I.

P.780

IMPERIAL CHEMICAL INDUSTRIES LIMITED · LONDON · S.W.1





ADAMSEZ LTD, LONDON & SCOTSWOOD-ON-TYNE

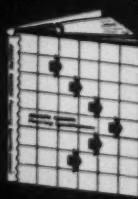
LEAF "LOTUS" & STEM
DESIGNED BY ALAN ADAMS

Adamsez know
sanitation from
A-Z

notes

BASIN AND PEDESTAL IN ONE PIECE
AVAILABLE IN WHITE, BRONZE AND OTHER COLOURS
DIMENSIONS: 24" X 18" OVERALL X 31" HIGH
REGISTERED DESIGN No 894104
PATENT No 1741

of
course
mason's
add
something
extra
to
their
paint



Practising architects
are invited to
write for this helpful
book—"Joseph Mason
Painting Specifications"

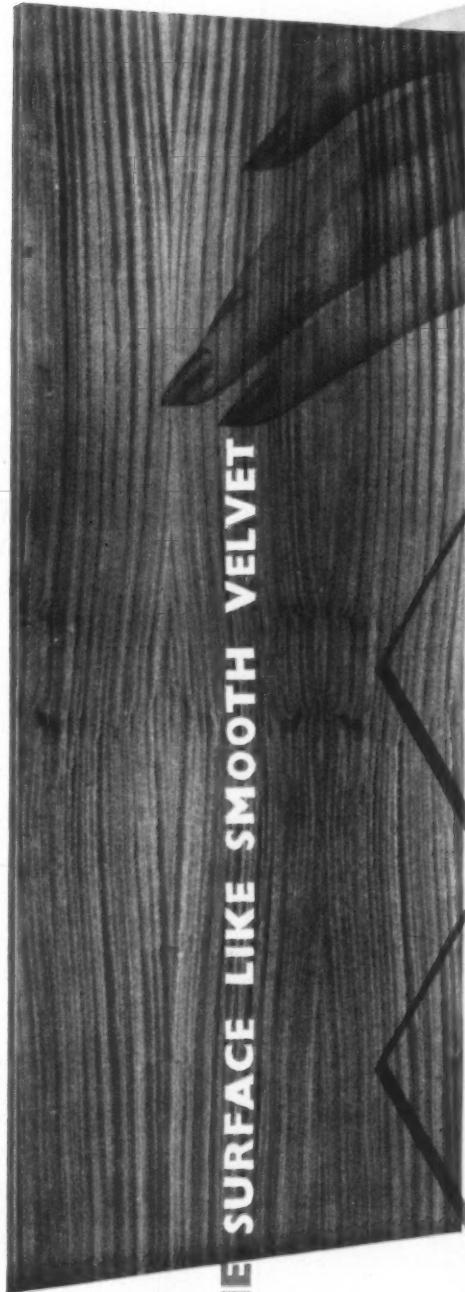
However good
the paint, quality alone
is not enough.
That "extra something"
is the expert co-operation
of our Technical Team
to ensure correct planning
and application.
The colour choice in
Masopar includes the full
B.S.S.2660 range.

joseph mason paints

JOSEPH MASON AND COMPANY LIMITED, DERBY. TELEPHONE: 40691-2-3

MANUFACTURERS OF VERY GOOD PAINTS SINCE 1800

AN IMPORTANT ADVANCE IN FLUSH DOOR TECHNIQUE



FOR THE SURFACE LIKE SMOOTH VELVET

V.S.F.

"Velvet Seal" Finish — THE
NEW PLYWOOD SURFACE SEALING
PROCESS DEVELOPED AND USED
EXCLUSIVELY BY **LEADERFLUSH** FOR
ALL FLUSH DOORS WHICH ARE TO
BE POLISHED OR VARNISHED

NO SANDING · NO FILLER REQUIRED ·
ONE COAT ONLY OF POLISH OR
VARNISH · MOISTURE RESISTANT ·
IMPERVIOUS TO HANDLING MARKS ON
SITE AND IN TRANSIT · FASTER SITE
PROGRESS · BIG SAVING IN COSTS

V.S.F. is applied at no extra cost

Used exclusively on

leaderflush
BRITAIN'S FINEST FLUSH DOORS

Illustrated folder sent on request.

LEADERFLUSH (Doors) LTD., TROWELL, NOTTINGHAM

601 Cogent.

LONDON OFFICE: BUSH HOUSE, ALDWYCH, W.C.2. Tel: COVENT Garden 2243

Telephone: Ilkeston 623 (5 lines)

6,000 TONS →
DEADWEIGHT SAVED

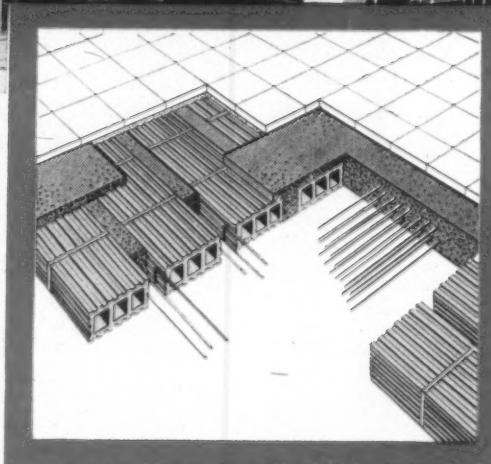
**STATE HOUSE
HOLBORN, LONDON, W.C.2**

ARCHITECTS: Trehearne and Norman, Preston & Partners,
83 Kingsway, London, W.C.2.
CONSULTING
ENGINEERS: R. Travers Morgan & Partners,
Hulton House, 161/6 Fleet Street, London, E.C.4.
CONTRACTORS: Tersons Limited,
Dollis Park, London, N.3.



Extensive use of 'Phorpres' Hollow Clay Floor Blocks in the design of Floor Slabs at State House by the Consulting Engineers, resulted in a saving of 6,000 tons of deadweight. This achieved a considerable economy in the cost of construction which, together with a complete absence of internal beams, gave maximum flexibility of planning.

★ **In all, some 140,000 'Phorpres' Hollow Clay Floor Blocks were used and 300,000 'Phorpres' Filler Tiles.**



LONDON BRICK COMPANY LIMITED in the service of the building industry

Head Office: Africa House, Kingsway, London, W.C.2. Tel: HOLborn 8282
Midland District Office: Prudential Buildings, St. Philip's Place, Birmingham 3. Tel: Central 4141
South-Western District Office: 11 Orchard Street, Bristol 1. Tel: Bristol 23004/5
Northern District Office: St. Paul's House, 20-22 St. Paul's Street, Leeds. Tel: Leeds 20771



BY APPOINTMENT
TO HER MAJESTY
QUEEN ELIZABETH II
BRICK MAKERS

CARPETS ?

Crossley Colour Advisory Service offers assistance
in the selection of carpets for any furnishing scheme.
Colour booklet 'Weaving the changes', of special
interest to architects, gladly sent on request.

CROSSLEY CARPETS

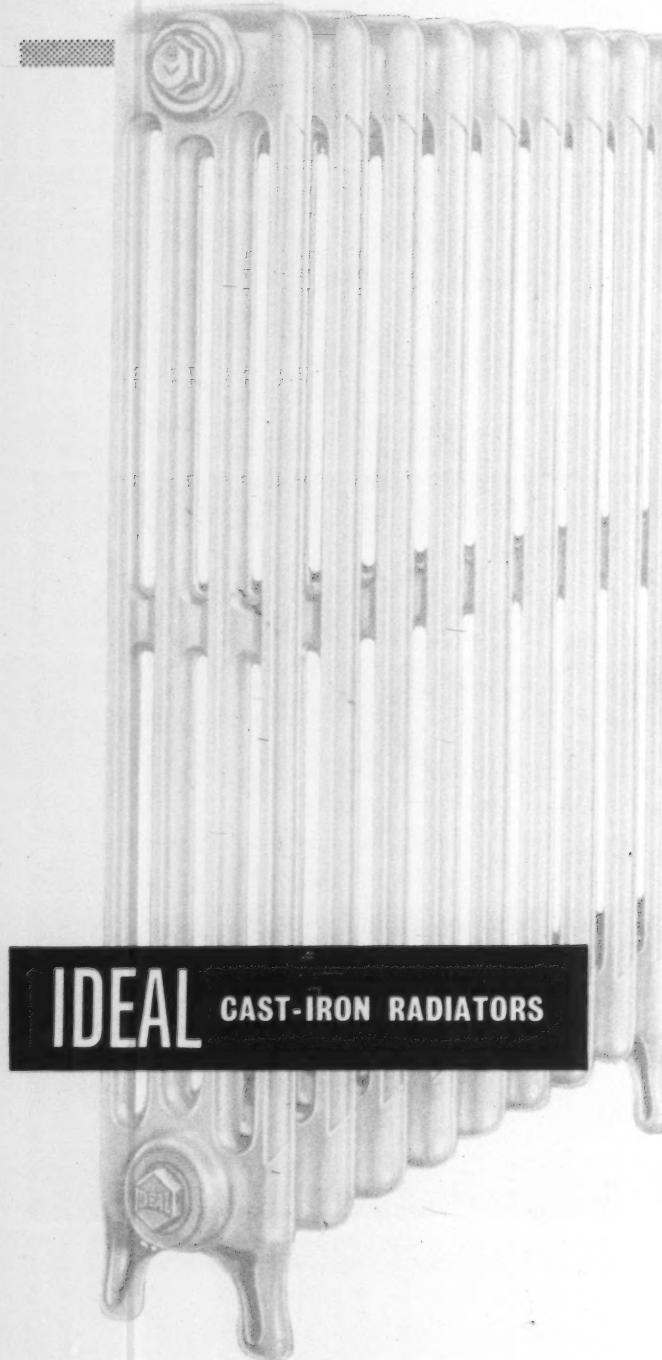
created by craftsmen



Supplied through usual trade channels. For further information write to:
JOHN CROSLEY & SONS LTD., DEAN CLOUGH MILLS, HALIFAX
famous for fine carpets since 1803



Cast-iron for long life!



Because
they resist corrosion,
Ideal cast-iron radiators have
an exceptionally long life.

This is further ensured by their
strength and accuracy of construction.

Then there is the advantage of
high heat transmission.

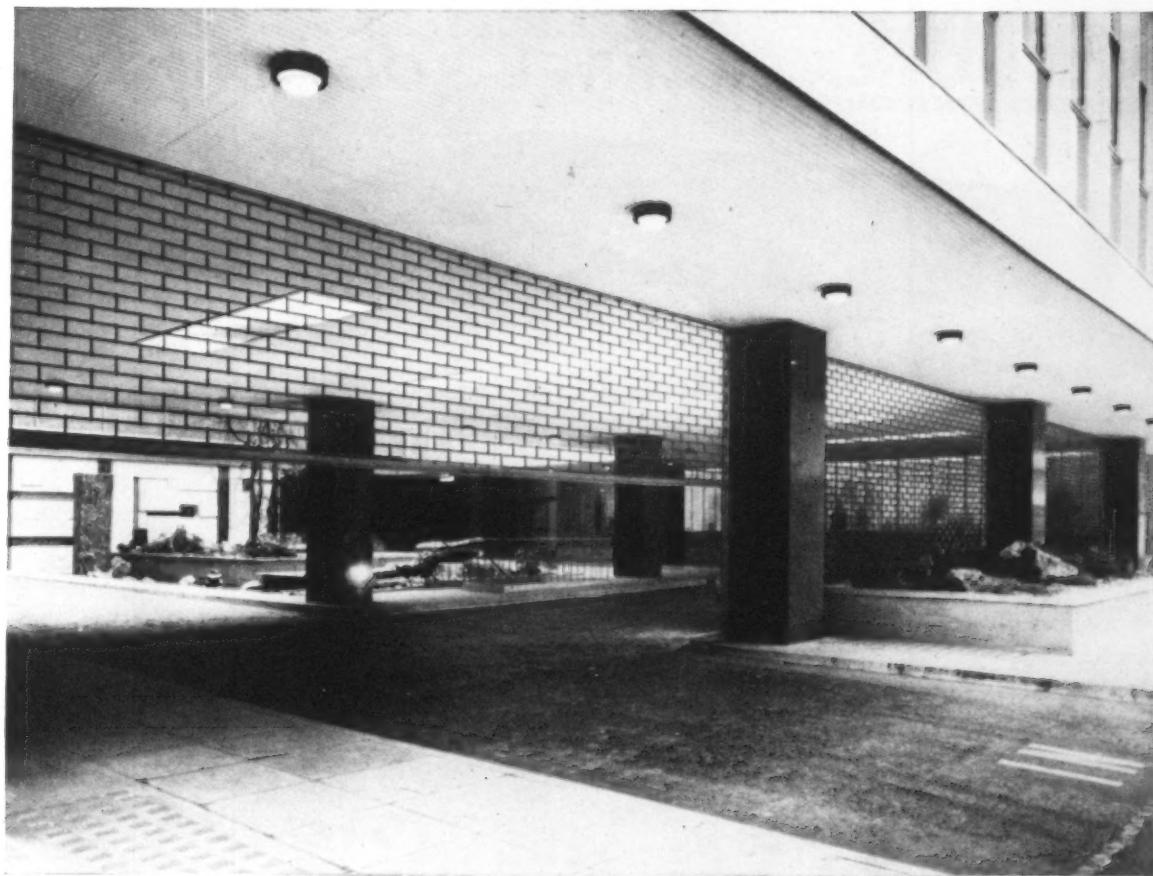
And when adaptability is considered,
Ideal column radiators offer the
advantages of sectional construction
not only at the planning stage

but at all times.
After installation it is quite simple
to 'make and break' the radiators
to add or remove sections.

Pictured is the Ideal No. 4 Neo-Classic Radiator.
The Neo-Classic is available with two, four or
six columns per section and in four heights.



Manufactured by
IDEAL BOILERS & RADIATORS LIMITED • IDEAL WORKS • HULL



Arthur Sanderson & Sons Ltd.,
Berners Street, London, W.I.

Slater & Uren, Chartered Architects.

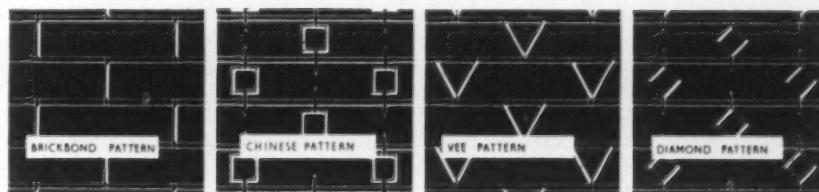
Haskins Rolling Portcullis Grilles are designed to provide maximum protection for all types of openings in the form of a decorative steel grille where vision or ventilation through the barrier is advantageous or essential. Various curtain patterns and methods of operation are available to suit every purpose from service counters in licensed premises to large industrial entrances.

Write for our illustrated catalogue 'Haskins Portcullis Grilles' which gives details of application, working sizes and specifications.



Haskins

Rolling Portcullis Grilles



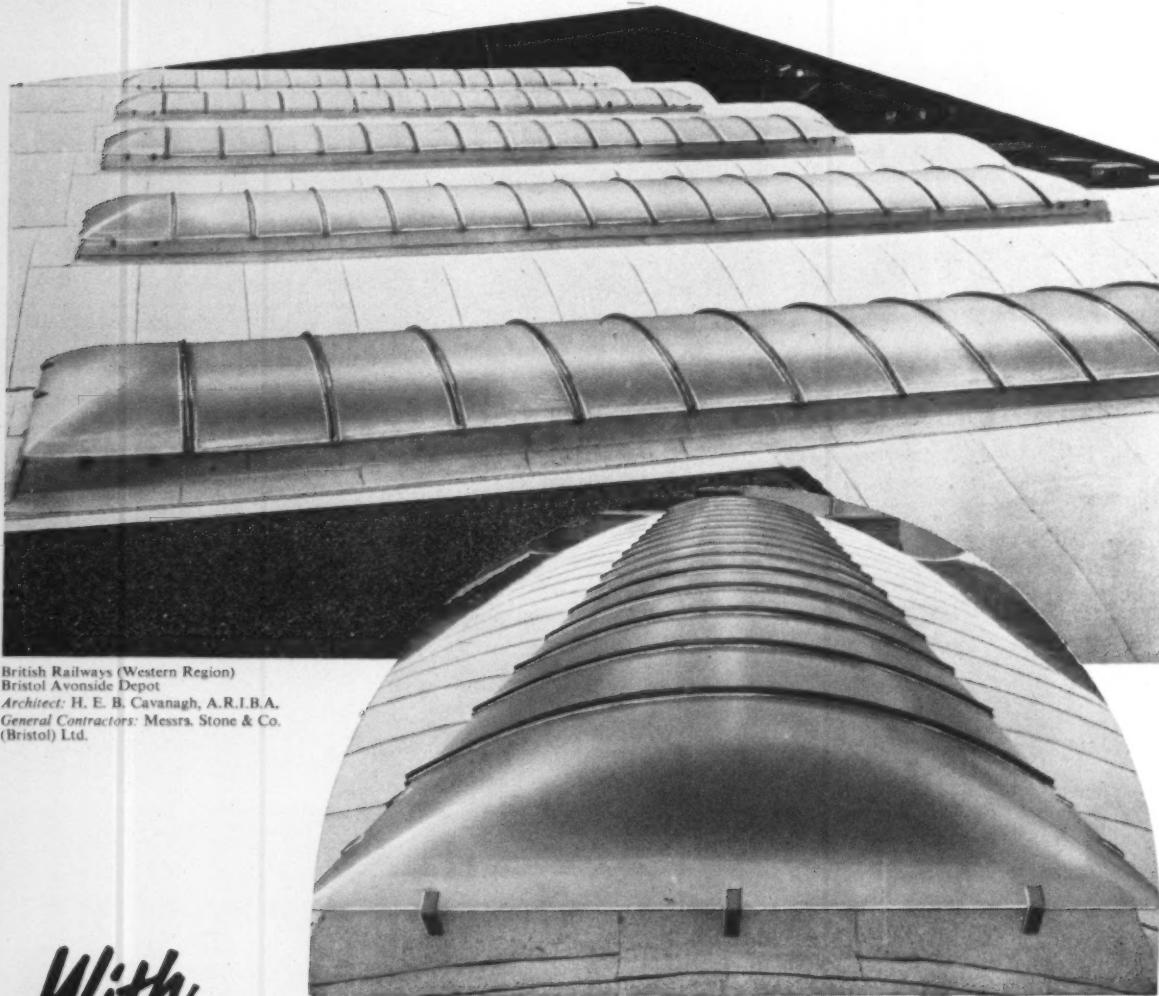
Haskins

STEEL ROLLING SHUTTERS & GRILLES

Gnome House, Blackhorse Lane, Walthamstow, London, E.17. Telephone: LARKwood 2622.
and Brook Street, Basingstoke, Hants. Telephone: Basingstoke 1070.

NEWDOME
TRADE MARK

BARREL ROOF-LIGHTS



British Railways (Western Region)
Bristol Avonside Depot
Architect: H. E. B. Cavanagh, A.R.I.B.A.
General Contractors: Messrs. Stone & Co.
(Bristol) Ltd.

*With
half-dome
ends as an
alternative
to solid gables*

Full details will gladly be supplied
on application, and our technical
representatives will be pleased to
advise you, without obligation, on
any matters relating to Newdome
roof-lights.

Half-dome ends not only make the roof-lights more pleasing in design, but also add appreciably to the amount of light transmitted.

The maximum size of one-piece domes is unfortunately limited by several factors, and the Newdome Barrel Roof-light has been designed for use where it is desired to have natural roof-lighting outside these limits. They can be made of any length, and can be fitted to either flat roofs or on the ridges of pitched or barrel roofs.

Made in seven standard widths from 3 ft. to 7 ft.,
with length unrestricted.

Members of the
Glass Benders' Association

G. & B. GARDNER & NEWTON LTD

17 GEORGE STREET · ST. HELENS · LANCASHIRE
Telegrams: Bender, St. Helens
GLASS BENDERS FOR OVER A CENTURY

Telephone: St. Helens 3042

this is the story ..

Newly developed G.E.C. magnetic switch controllers, the first of their kind in the world—shown here in an outline drawing—control all lighting in the two new operating theatres of the Western General Hospital in Edinburgh. Of unusual, almost ovoid shape, these theatres are equipped with the most modern apparatus to assist the work of the eminent brain surgeon and his staff.

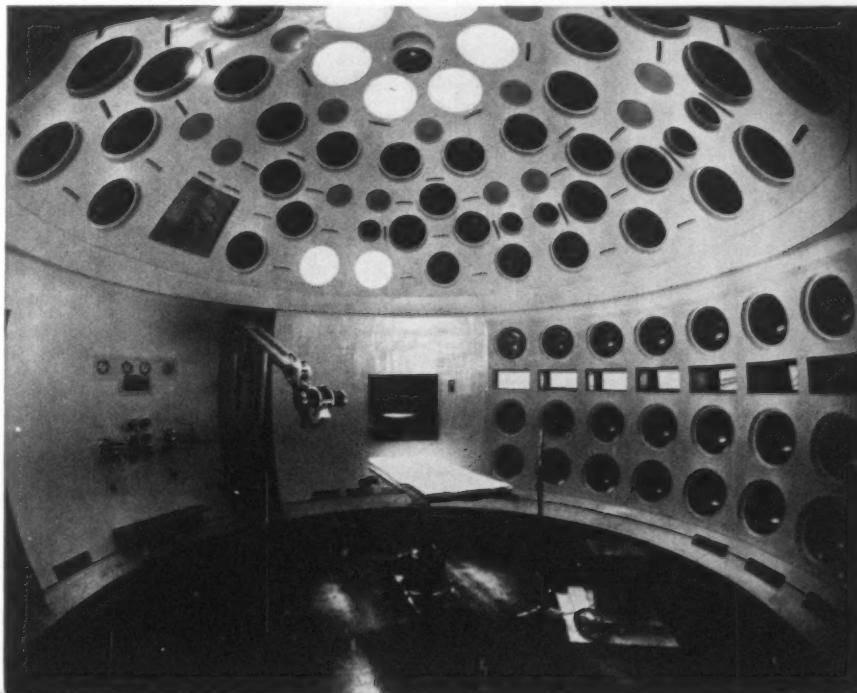
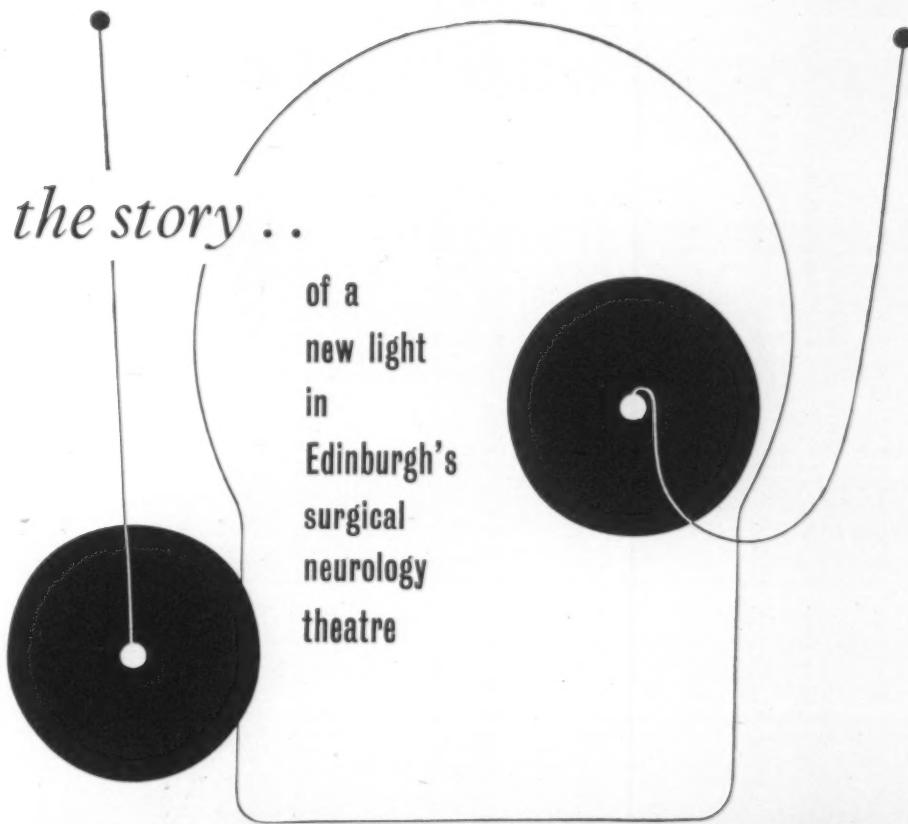
Each theatre has 18 lights for general illumination and 68 adjustable operation projector lights specially designed and made by the G.E.C., using special silvered Osram 75W small filament lamps.

The new and patented magnetic switch controller is designed for simplicity and safety in operation. Briefly, it consists of magnetic switches located behind a metal panel on which is outlined the shape of the ceiling and wall lights, as shown.

The lights can be quickly and easily directed during operations by simply moving metal plates across the panel which switch on groups of lights corresponding to the pattern of the plates. Usually 12 lights are in use at a time providing over 2,000 $1\text{m}/\text{ft}^2$ at the focal point on the table. All electrical maintenance and lamp replacement is effected from outside the theatre.

Britain's leading lighting designers are proud to add this installation to their outstanding record of achievements.

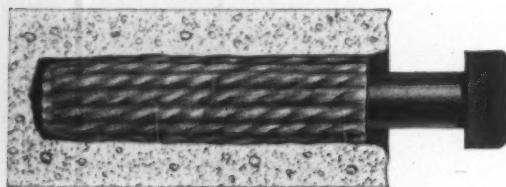
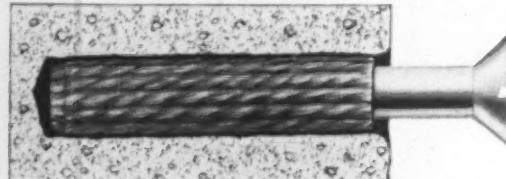
of a
new light
in
Edinburgh's
surgical
neurology
theatre



THE GENERAL ELECTRIC CO. LTD., MAGNET HOUSE, KINGSWAY, LONDON, WC2

SCREW-FIXING IS FASTER THAN EVER!

'Rawlplugs are by far the speediest method of screw-fixing in the world'—you've known that for years. But have you noticed how much faster even Rawlplugs are today, with the sensational Rawlplug drills and power tools now available for drilling the holes in all kinds of masonry? It's well worth looking into!



FOR ALL SCREW SIZES

There's a Rawlplug for every size of screw up to $\frac{1}{4}$ " diameter coach screws, which take a load of 4 tons.

Rawlplugs are the fixing for *neatness* as well as speed and strength—no mess, no damage to surrounding materials, almost invisible in position. Being rotproofed and waterproofed during manufacture, they can be used under all climatic conditions. Screws can be withdrawn and replaced without affecting the efficiency of the Rawlplugs.

Write now for illustrated literature containing full details of Rawlplug Fixing Devices and the many high performance Rawlplug tools (hand, electric and pneumatic).

**THE RAWLPLUG CO. LTD.,
CROMWELL ROAD, LONDON, S.W.7**

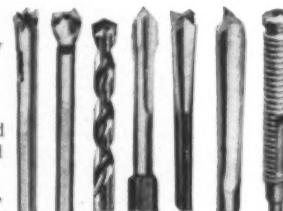
Telephone: FREMANTLE 8111 (10 LINES) Telegrams: RAWLPLUG SOUTHKENS LONDON

The world's largest manufacturers of fixing devices

B613A

HIGH EFFICIENCY BORING TOOLS AND DRILLS

For cutting holes in any material—concrete to glass—Rawlplug tools are the speediest, most efficient and durable in the world. Sizes and types to meet every need—hand, electric or air power. Among hand percussion tools are Rawl-drills, Stardrills, Tubular and Wall Boring Tools. For hand or power—Durium, the world's fastest masonry drill, and Durium Glass Drills. Power only—Vibroto, Rawlcrete, Durium Hammer Drills, etc.



R.P.2 Two-speed ELECTRIC DRILL

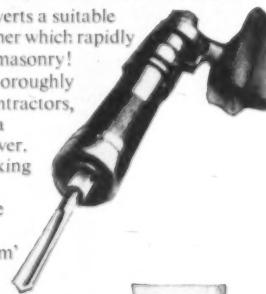


Keyless Chuck

At the touch of a button you can change the speed of this drill from 1200 r.p.m. to 420 r.p.m. which is the ideal speed for Durium Masonry Drills. Chuck capacity is $5/16$ ". Finger tightening holds the smallest drill in rigid grip which increases with the load yet can be easily released.

RAWLPLUG DRILL HAMMER

This ingenious attachment converts a suitable electric drill into a Power Hammer which rapidly bores holes in even the hardest masonry! A sturdy high-precision tool, thoroughly proved and used by famous Contractors, the Rawlplug Drill Hammer is a magnificent time-and-money saver. Suits any electric drill with working speed up to 2000 r.p.m. and minimum $\frac{1}{2}$ " chuck. Speed—one blow per chuck rev. Weight of blows adjustable 'light', 'medium' and 'heavy'.



Rawlplug VIBROTO Drilling Machine

The performance of this sensational 3 in 1 power tool must be seen to be believed—three high-precision machines in one! The Vibroto R.V.1 machine provides (1) dual vibration action (with Vibroto Drills, faster masonry drilling even than Durium!); (2) Rotary action for standard Durium Drills; (3) general purpose tool for use with standard twist drills. Vibration frequencies 7,500 and 11,200 per minute. Weight 9 lb. Length overall $18\frac{1}{2}$ ". Fully guaranteed. The R.V.2 machine is a smaller version and although lighter in weight it has all the advantages of the R.V.1 for drilling holes in masonry up to No. 14 using Vibroto hard-tipped drills.





PICTURE

The C.U. Structural Engineering Division was responsible
for the supply, delivery and erection of the
steelwork for the new Ilford chemical packing block at Basildon.

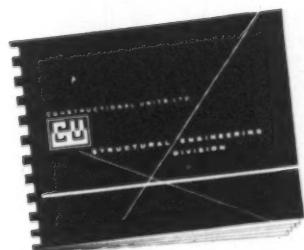
The C.U. service is based on an entirely new concept
of the role of the structural engineer, offering the experience
and creative thinking of experts in the unconventional
use of materials and fabrication techniques.



STRUCTURAL ENGINEERING DIVISION

CONSTRUCTIONAL UNITS LTD.

Oxgate Lane · N.W.2 · GLAdstone 6554



NAME	AD/1
ADDRESS	

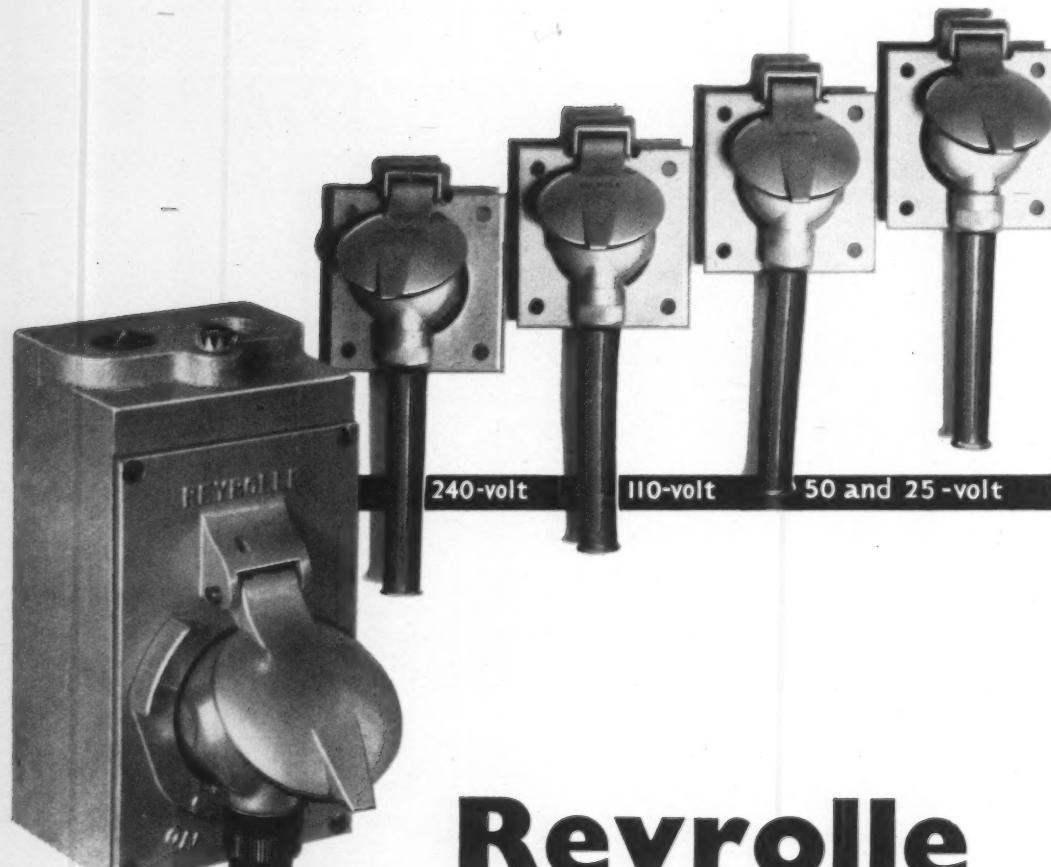


Reyrolle

*Metalclad
protected-type
weatherproof*

PLUGS AND SOCKETS AND INTERLOCKED SWITCH-PLUGS

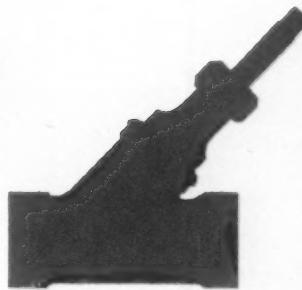
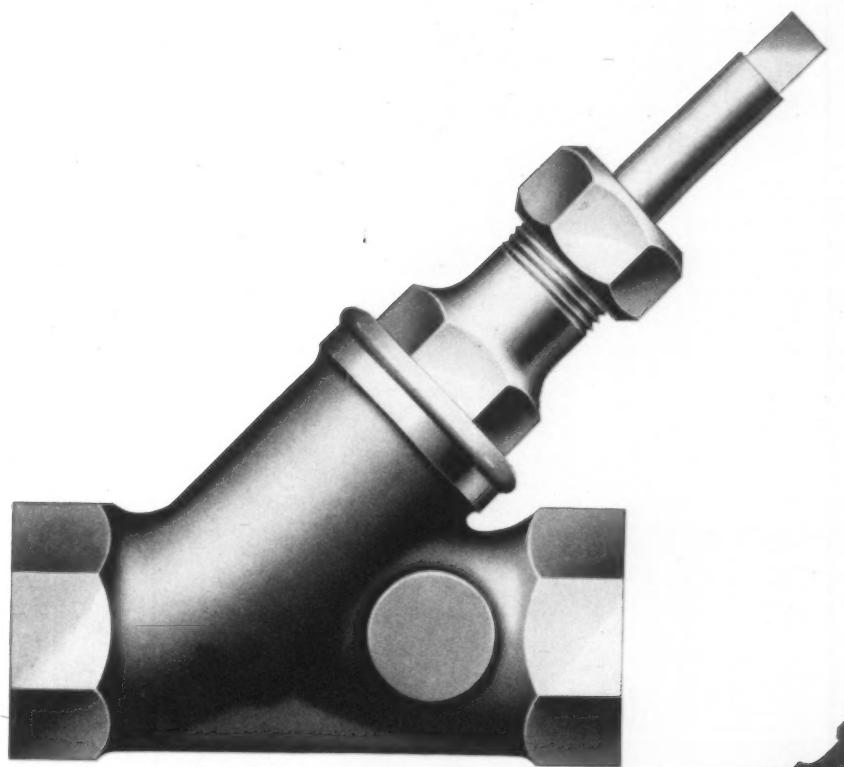
Based on B.S. 196



Reyrolle

*Ask for
pamphlet
No. 1252*

A. Reyrolle & Co. Ltd - Hebburn - County Durham - England



HATTERSLEY
**"Y" Type Panel Valves are specified
for the new Shell Centre, London**

Thousands of Hattersley Fig. P.330 "Y" type panel valves are being installed in the new Shell Centre. The valves are for fine control and isolation of suspended ceiling and embedded floor panels for heating and cooling purposes.

The compact design of the valves and the ease of flow regulation afforded by the special patented clack makes them ideally suited to this application.

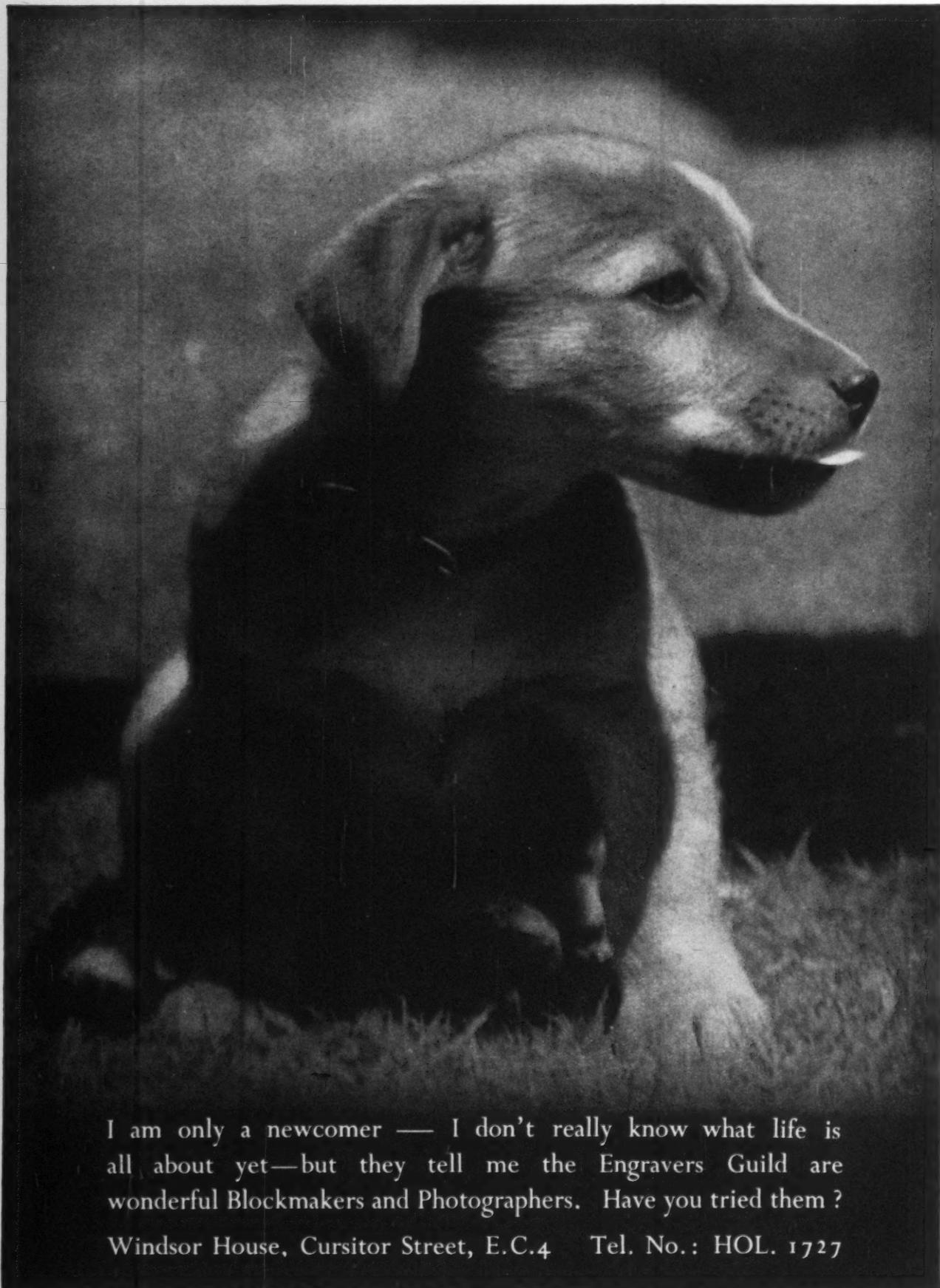
Designers and Contractors for the installation are Messrs. G. N. Haden & Sons Ltd.

HATTERSLEY
ESTABLISHED 1897



the name for good valves

HATTERSLEY (ORMSKIRK) LIMITED ORMSKIRK · LANCASHIRE
and at HALIFAX and LONDON

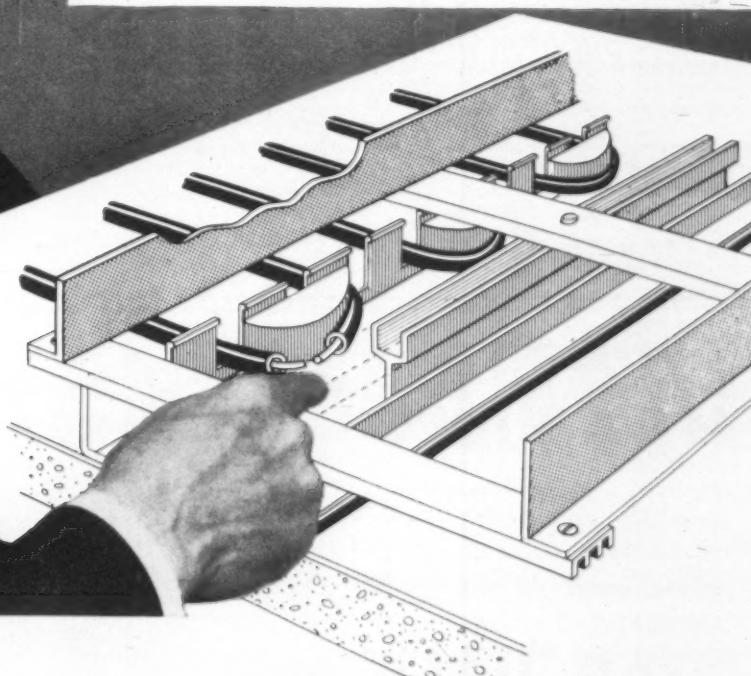


I am only a newcomer — I don't really know what life is all about yet—but they tell me the Engravers Guild are wonderful Blockmakers and Photographers. Have you tried them?

Windsor House, Cursitor Street, E.C.4 Tel. No.: HOL. 1727



**Only THERMODARE
warm-floor heating
combines
solid-in economy with
rewireability
*at no extra cost!***



No architect can afford to ignore the unique advantages offered by the new Thermodare Underfloor Heating system. When the undoubted facility of rewireability is added to the proved efficiency and economy of solid-in systems *at no extra cost*, Thermodare becomes the automatic choice. Thermodare are Britain's foremost electrical heating engineers, and offer the fullest technical services. The time to call in Thermodare is in the earliest stage of planning. For full information and details of the complete Thermodare range of heating equipment—Night Storage Heaters, Infra-Red Heating and the new Thermodare Warm-floor Heating system—please write your name and address in the margin of this advertisement and post it to the address below.

THERMODARE EMBEDDED-REWIREABLE
WARM-FLOOR HEATING

Thermodare (Great Britain) York Mansion, 94/98 Petty France, London, S.W.1. Abbey 6586-9



This year's fully up-to-date edition

LONDON NIGHT AND DAY, 1960-61 edition

a guide to where the other books don't take you

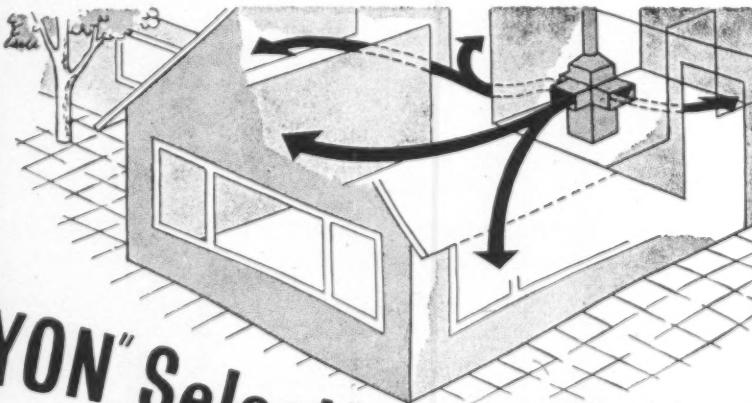
illustrated by Osbert Lancaster, edited by Sam Lambert.

The eighth, thoroughly revised edition of this, the most popular guide to the under-the-surface London of today, is now on sale, still at the same price, 5s.

THE ARCHITECTURAL PRESS 9-13 QUEEN ANNE'S GATE, LONDON S.W.1.

RAPID HEATING

is just one of the good reasons why more and more architects have discovered the many technical and practical advantages of the



SUGG "HALCYON" Selective Air Heater



Illustration of Halcyon Model F.45 shown with the ducting removed.

A TEMPERATURE RISE OF UP TO 20°F CAN BE SUPPLIED TO AN AVERAGE ROOM IN ABOUT 10 MINUTES.

This "warmth where you want it" equipment presents no difficulties in installation, by simple duct system, suitable for houses, bungalows and flats.

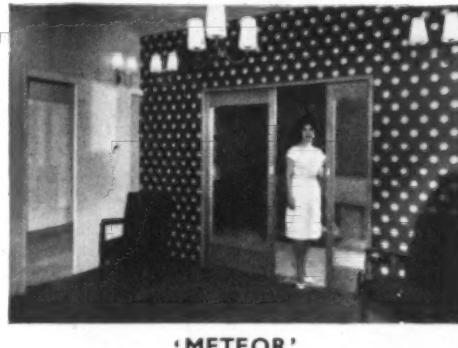
It is compact, easy to control and economical to maintain. The "HALCYON" time-switch can be set to operate automatically at any required time.

CAPITAL COST UNDER £80

Choose "HALCYON"—for a new high standard of near-central domestic heating. Thousands already in use.

Literature and full technical details available from

WILLIAM SUGG & COMPANY LTD., 67-73, Regency Street, London, S.W.1
Telephone VICToria 3211



'METEOR'



'OVERDOR'

Sliding or Folding Doors and Partitions run more smoothly, far longer

on



SLIDING
DOOR
GEAR

'METEOR'

Ellard 'METEOR' sliding door gear is designed for use with all types of internal straight sliding doors up to 120 lbs. each in weight.

'METEOR' sliding door gear is a recent addition to the 'ELLARD' range and incorporates the latest principles of modern design, ensuring many years of smooth, trouble-free running.

'OVERDOR'

Ellard 'OVERDOR' garage door gear is suitable for both private and council lock-up garages, whether singly or in multiples, and is designed for doors from 6-7 ft. high and up to 200 lbs. in weight. The smooth 'up and over' action of 'Overdor' gear enables the door to be opened and closed with ease and speed.

A comprehensive range of Sliding and Folding Door Gear is available for any application, from a cabinet to an aircraft hangar door. Fully illustrated literature available on request.

ELLARD SLIDING DOOR GEARS LTD., (Desk 55) Works Road, Letchworth, Herts. Tel: 613/4
LONDON OFFICE: 5 New Bridge Street, Ludgate Circus, E.C.4. Tel: CITY 4815

SITUATIONS WANTED



Managerial desk seeks permanent position of trust and responsibility. Impeccable appearance, influential and versatile.

Seven drawers including personal filing drawer on ball bearing glides. Insert accessories tray, fully enclosed back. Vynide inlaid top in many shades. Oak or Mahogany finish. Just £38 18s.

Full particulars from:
**DEPT. AR.2, CARSON BROS.
(PRODUCTIONS) LTD.**
BASILDON, ESSEX.

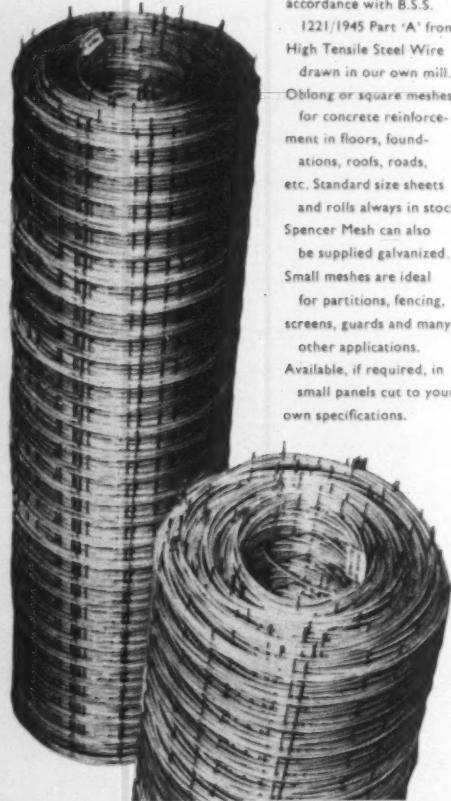
CARSONS

MODERN
OFFICE FURNITURE

SPENCER MESH

for

CONCRETE REINFORCEMENT

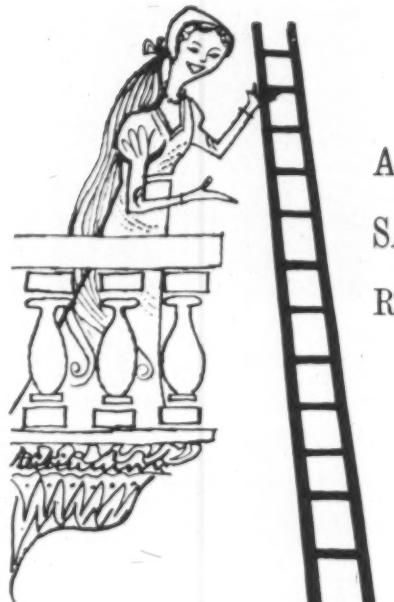


An electrically welded mesh manufactured in accordance with B.S.S. 1221/1945 Part 'A' from High Tensile Steel Wire drawn in our own mill. Oblong or square meshes for concrete reinforcement in floors, foundations, roofs, roads, etc. Standard size sheets and rolls always in stock. Spencer Mesh can also be supplied galvanized. Small meshes are ideal for partitions, fencing, screens, guards and many other applications. Available, if required, in small panels cut to your own specifications.

We also specialise in designing reinforced concrete.

THE
SPENCER WIRE
COMPANY LIMITED • WAKEFIELD
Telex: WAKEFIELD 61111 (10 lines) • Telegrams: SPENCER WAKEFIELD TELEX
Telex No. 55.168

DaWB60AR



AS JULIET
SAID TO
ROMEO...

You
need a
RAMSAY
ladder!



Aluminium or wood . . . single or extending . . . stepladder or trestle . . . always insist on the RAMSAY stamp on every ladder you buy. Genuine Ramsay ladders have many exclusive features for easy operation and added safety, yet they cost no more than ordinary ladders. With over 1,000 always in stock, and a range to suit every purpose, the Ramsay ladder for your job is available NOW with immediate delivery. Write for catalogues and price lists.

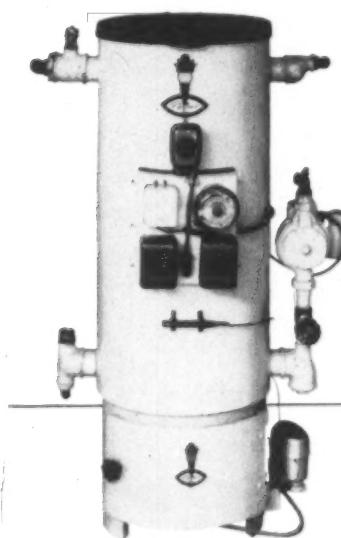
RAMSAY LADDERS

RAMSAY & SONS (FORFAR) LTD.
WORKS & HEAD OFFICE: FORFAR, ANGUS, SCOTLAND
Tel: FORFAR 855

GLASGOW DEPOT: British Railways Mineral Yard, Kelvinbridge, South Woodside Road, Glasgow, C.4. Telephone: Western 3083
EDINBURGH DEPOT: British Railways Mineral Yard, Haymarket, Edinburgh 12. Telephone: Donaldson 1022.
LEEDS DEPOT: British Railways Goods Yard, Whitehall Road, Leeds, 12. Telephone: Leeds 32903.
LONDON AND EXPORT OFFICE: Excel House, Whitcomb Street, London, W.C.2. Telephone: Trafalgar 6745.

STOCKS ARE ALSO HELD AT BELFAST & DUBLIN

Perkins have them all



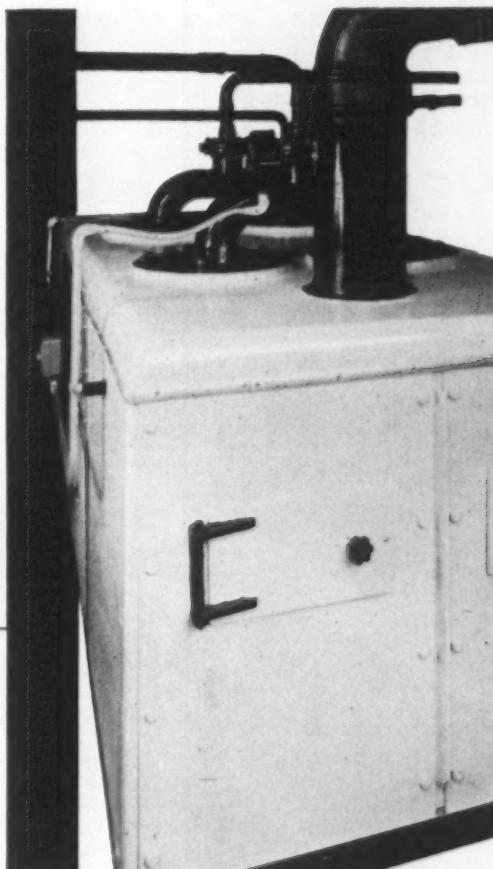
From 35,000 to 2,000,000 B.T.U.'s per hour—and more; oil, gas or electric fired boilers for house, bungalow, office block, factory or ship.

Packaged boilers for hot water and steam, completely automatic and capable of working for long periods without attention.

Perkins

PRECISION HEATING

Why not write for full particulars of the largest range of boilers in Europe to:
PERKINS BOILERS LTD. (Arch. Dept.) MANSFIELD ROAD, DERBY
Telephone: Derby 48235 (5 lines). Telegrams: 'Perkins Derby'.
London Office: 82 Merton High Street, S.W.19. Telephone LIBerty 5271-2.



the new way to say

MOSAICS

Feltwood

FELTWOOD is real wood flooring—in ready-to-lay panels of $\frac{3}{8}$ " hardwood blocks indissolubly bonded to an underlay of damp-resisting felt. The mosaics cannot work loose. A heated building is not required, yet it withstands all forms of under-floor or ceiling heating.

FELTWOOD is easily laid, is available in many lovely hardwoods, has every single advantage of a traditional wood floor plus the damp-resistance and extra resilience the felt gives it—and it

COSTS BARELY MORE THAN SYNTHETIC FLOORING

We hold large stocks of many different hardwoods seasoning in our yards.

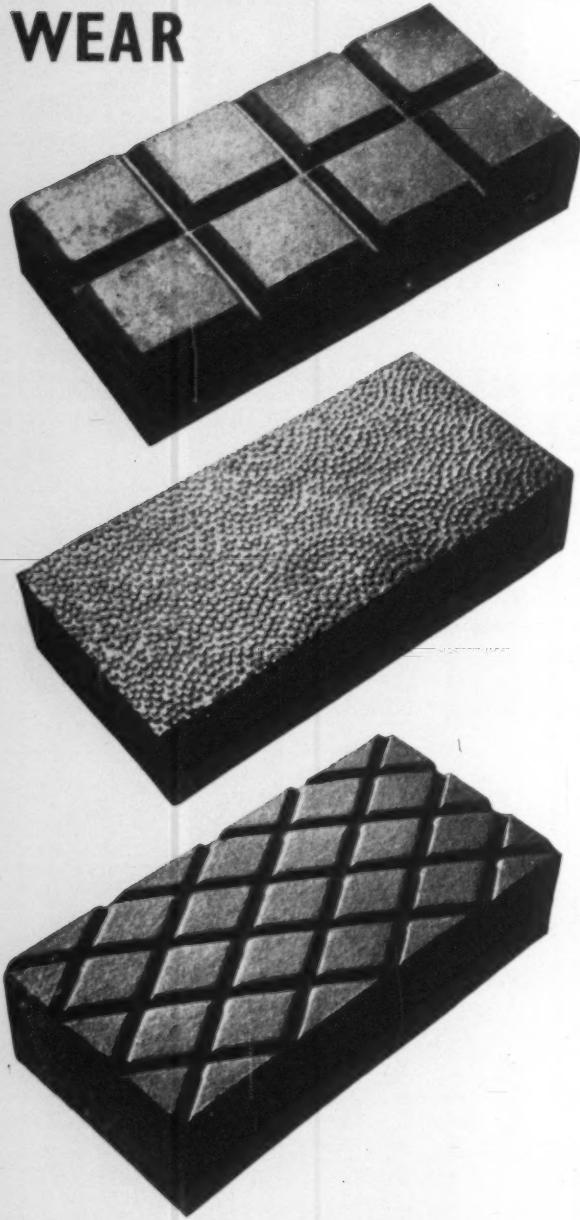
MANUFACTURED BY
VIGERS

Write for leaflet ARF and sample panel of Feltwood

VIGERS BROS. LTD. LUDGATE BROADWAY, LONDON, E.C.4
AND AT BELFAST—EXETER—CARDIFF—BIRMINGHAM CITY 2111



PAVE THE WAY FOR HARDER WEAR



For factory and other floors exposed to heavy traffic, impact and corrosion, Accrington 'Nori' Paving Bricks may be specified with the utmost confidence. Made from the same material as the famous Accrington Engineering Bricks. Samples on request.

ACCRINGTON 'NORI' Paving Bricks

THE ACCRINGTON BRICK & TILE CO. LTD.,
ACCRINGTON, LANCS. Phone: Accrington 2684
Southern Representative: L. G. Rogers, "Oak Lea," Main Rd.,
Westham Hill, Kent. Telephone No: Biggin Hill 0538

For INCINERATION of All Industrial Wastes (solid and liquid)

in compliance with the Clean Air Act
and their UTILISATION for
production of

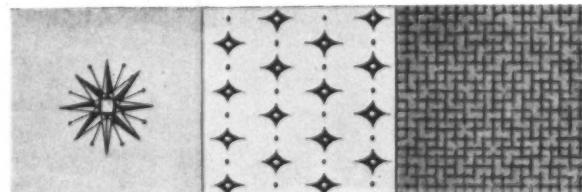
Steam
Hot Water
Warm Air

please consult

THE INCINERATOR CO LTD
72 VICTORIA ST LONDON SW1

We also supply Incinerators for

Hospitals
Offices
Shops and Supermarkets
Schools

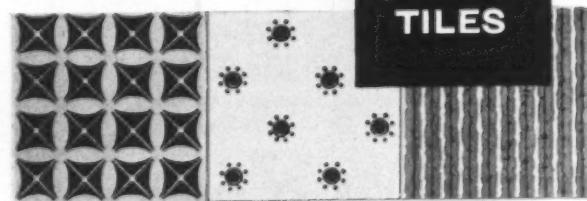


Architecturally speaking

Malkin present a new range of screen printed tiles. They are planned to make a positive contribution to wall design and have the backing of the Malkin tradition of craftsmanship.

MALKIN

Screen
printed
TILES



Write for illustrations and details to

THE MALKIN TILES (BURSLEM) LTD
BURSLEM STOKE-ON-TRENT
TELEPHONE STOKE-ON-TRENT 87287

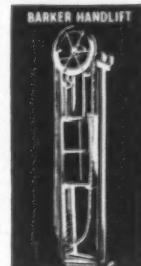
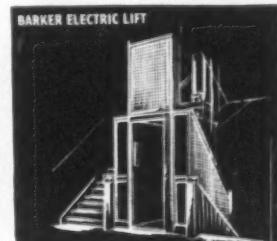
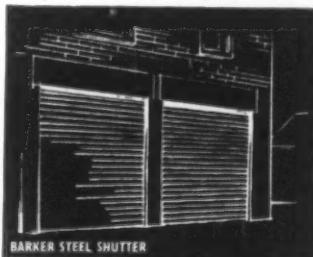
Members of the Glazed and Floor Tile Manufacturers Association. 1968 ®



Wise heads behind wise hands build

BARKER

**ROLLER SHUTTERS
ELECTRIC LIFTS
HAND LIFTS
DELIVERY HOISTS**



BARKER

For full details of Barker products send for illustrated literature A.11 to:-

JOHN BARKER & SONS (ENGINEERS) LTD.

Union Street, Ancoats, Manchester 4. Tel: COLlyhurst 2018
London: 71 Strawberry Vale, Twickenham,
Telephone: POPesgrov 0794

Sealing mastics



**for every job
in every section
you require**

**SEEADSHEAD RATCLIFFE
the mastic specialists**

ARBOSEAL

The complete sealing medium with a polythene base, suitable for almost all building materials. Made in a variety of sections to fit any shape and in strip form to ensure quick and easy handling. Provides a resilient seal or gasket with great powers of recovery under thermal movements. Will not harden or dry out under adverse conditions and remains inert and impervious to water and ultra violet light.

**ADSHEAD
RATCLIFFE**

AND COMPANY LIMITED

BELPER · DERBY · Tel: Belper 891/2/3

REYNER BANHAM

THEORY AND DESIGN IN THE FIRST MACHINE AGE

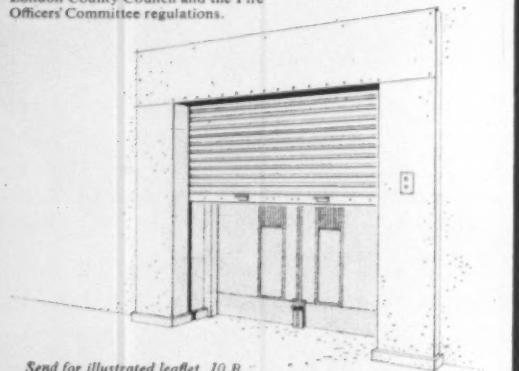
IN THE FIRST THIRTY years of the twentieth century, architects made a tremendous effort to adapt themselves and their art to a new set of circumstances—life in a Machine Age. The whole theory of architecture was brought under scrutiny—some of it for the first time since Antiquity—in a wave of self-examination unparalleled in the history of art. Not only was a new climate of ideas created, but the Masters of Modern Architecture—Gropius, Mies van der Rohe, Le Corbusier and others of less fame but no less interest—used their writings to justify their buildings, and their buildings to confirm their theoretical writings. Dr. Banham's subject covers not only a mass of theoretical writings—much of it unknown to English readers—but also buildings, projects, industrial designs, paintings and sculptures—many of them illustrated in an English-language publication for the first time. Dr. Banham shows how one unifying theme finally emerges from this melting pot of exciting designs and excited discussion—the theme of a Machine Age Architecture; the architecture of the International Style, as the historians term it; Modern Architecture, with its white walls, flat roofs and big windows, as the man in the street understands it. Into the growth of this theme went many highly inventive designs, which the author illustrates and analyses; many and varied publications, ranging from the scholarly to the scandalous, from which he quotes extensively, showing not only how the theories are related to the finished products, but also how the theories—and even the theorists—are related to one another. *Size of book 8½ x 5½ in. 340 pages with over 150 half-tone and line illustrations. 45s. net, postage 1s. 9d.*

The Architectural Press, 9-13 Queen Anne's Gate, S.W.1

KINNEAR FIRE SHUTTERS
by the makers of Kinylon and Kinrod Grilles

solve the problem

of fires that could cost you more than any insurance would cover. Absolutely fire-proof, Kinnear Fire Shutters save useful wall space and need no ugly floor or overhead tracks. Adaptable to any surround, they remain unseen when not required for duty. Manufactured to London County Council and the Fire Officers' Committee regulations.



Send for illustrated leaflet 10.B.

ARTHUR L. GIBSON & CO. LTD., TWICKENHAM, MIDDLESEX.
Telephone: Popesgrove 2276. Birmingham: Highbury 2804.
Glasgow: Halfway 2928. Cardiff: 51428.

JAMES
make good
METAL
WINDOWS

W. JAMES & CO. LTD.
Hythe Rd. Willesden Junction
LADbroke 6471 (6 lines) N.W.10

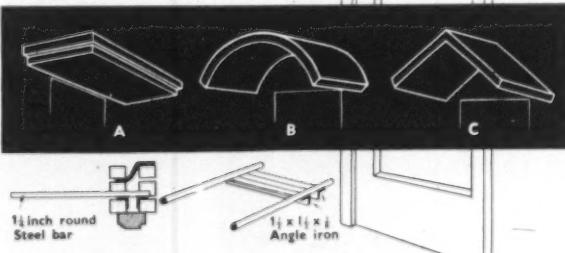
Specify ALUMINIUM CANOPIES

Ahead of modern design yet in keeping with the demands of price and time factors—these canopies are proving to be a success all over this country. Briefly the salient points are listed below.

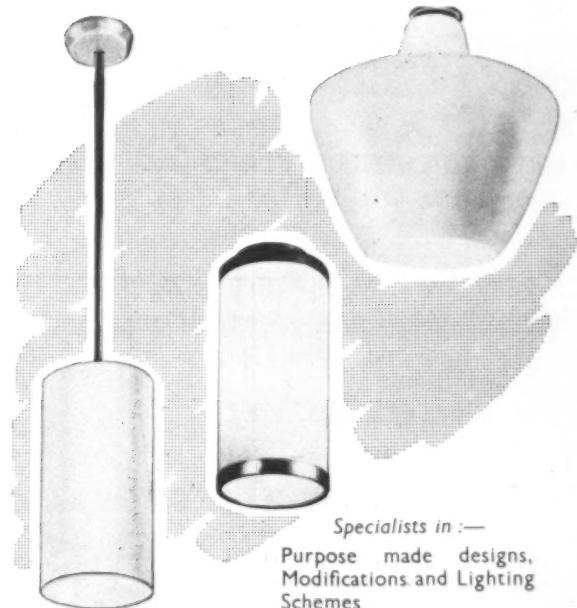
Alicanopies

- (a) ECONOMICAL TO BUY AND TO FIT.
- (b) EASE AND SPEED OF FITTING.
- (c) LONGEVITY.
- (d) PRODUCED IN A VARIETY OF DESIGNS — ALL IN GOOD TASTE.
- (e) FINISHED IN CREAM ENAMEL.
- (f) ADD DIGNITY TO ANY NEW BUILDING, OR CAN BE USED TO MODERNIZE AN OLD BUILDING.

SEND FOR FOLDER ILLUSTRATING DESIGNS AND APPLICATION.



BAINBRIDGE BROS. (Engineers) LTD
FACIA WORKS, WOODHILL ROAD, BURY, LANCASHIRE
TELEPHONE: BURY 5034 5035



Specialists in:—

Purpose made designs,
Modifications and Lighting
Schemes

DESIGNS by
S.L.R. ELECTRIC Ltd

WELBECK WORKS, WELBECK ROAD
SOUTH HARROW, MIDDLESEX

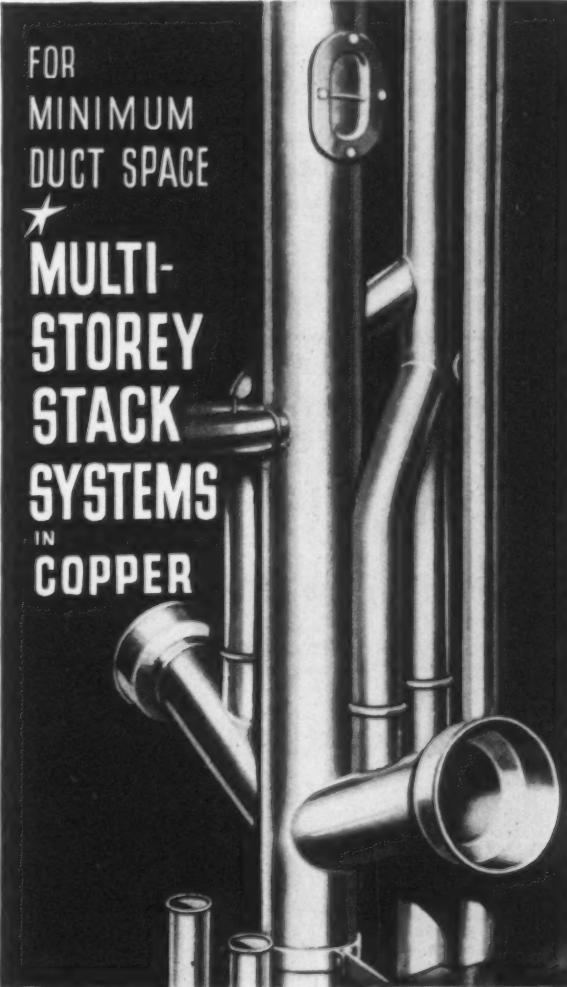
Telephone: BYRon 3273/4



Dunlopillo cushions and backrests supplied to any specification, uncovered or covered and ready or installation on site.

May we send you full details?

LATEX UPHOLSTERY LIMITED
THE LEADING SPECIALISTS
41, LONSDALE ROAD, LONDON, W.11 Telephone: BAYswater 6262-5



USING THE
'TRAPEZE'
(REGD.)
JOINT

* 'TRAPEZE' (patent) joints on all units permit simple and rapid assembly to cut installation costs. Ideal for connecting up in restricted and inaccessible positions. Never leak. Tested to pressure of 3600 lb. per sq. inch.

Individually planned and designed soil and waste units for all types of multi-storey buildings—hotels, schools, hospitals, factories, flats—**ALL IN COPPER**, at an installed cost comparable with other traditional materials.

Tailor-made for the minimum of duct space and designed to conform with the latest Codes of Practice for single stack and simplified one-pipe systems.

Trouble-free and long-lasting; manufactured from solid drawn copper tube to BSS.659.

The top illustration of a typical branch unit shows the intricate connections possible within a confined space.

BENDZ
LIMITED

LISTER STREET,
BIRMINGHAM 7.

Telephone: ASTon Cross 3771-2
Grams: 'TRAPPED, Birmingham 7'

HATHERNWARE

FAIENCE

IN THE CITY

PURPLE-GREY STONE-FACED FAIENCE WINDOW PANELS ON

Architects: C. Edmund Wilford & Son

GOLDSMITHS SITE FETTER LANE LONDON E.C.4.

Send for details to Dept. A.R. HATHERNWARE LTD. LOUGHBOROUGH, LEICS. Tel: Hather 273/4.

dmHLB1

CATHOLIC CHURCH IN LEEDS

Our Lady of Lourdes

Architects: Walker & Biggin
A.R.I.B.A.

Featured on pages 137-139

Electrical Installation by

BAKER & HYMAN LTD.
ELECTRICAL ENGINEERS

PORTLAND CRESCENT - LEEDS, 1.

Telephone - LEEDS 32366 (4 lines)

Telegrams - BAKMAN Leeds



Quality speaks quietly...
...and works efficiently

The WHIRL-A-WAY
WASTE DISPOSAL UNIT

Manufactured by
W. T. HEDLUND Mfg. Co., LOS ANGELES, CALIFORNIA

Neat, compact, well designed and warranty for 10 whole years, it is essential for hygiene in the modern kitchen. It deals quietly and efficiently with all messy scraps, vegetable peelings, tea leaves, kitchen waste and even bones—down the drain they go—to be ground up and washed away. Deterrent to flies, it eliminates unpleasant odours and kitchen bins.

RETAIL PRICE £36 WITH THE USUAL TRADE DISCOUNT

Sole Concessionaire for the United Kingdom

DAVID JACKSON (Engineering) LTD

11 MAULDETH ROAD, WITTINGTON, MANCHESTER, 20. Telephone: RUSHolme 6124, 6802

New Building
St. John's College, Oxford

Illustrated on pages 105-109

ARCHITECTURAL
IRONMONGERY

Supplied by

ALLGOOD CONTINENTAL LIMITED

5/6 Eagle Street, London, W.C.1

Metal Letters

IN STAINLESS or ENAMELLED STEEL

CAST BRONZE LETTERS | ENGRAVED BRONZE PLATES
(including CERAMIC Filled) | PERSPEX LETTERS



COMPLETE INSTALLATIONS erected and maintained for the Trade using plain vans



27 PACKINGTON ROAD, SOUTH ACTON, W.3
Telephone Acorn 1153-4

A TESTAMENT

BY FRANK LLOYD WRIGHT

published at 70s. (postage 2s. 3d.) by the Architectural
Press, 9-13 Queen Anne's Gate, Westminster S.W.1

New Building, St. John's College, Oxford
Architects : Architects Co-Partnership

Illustrated in this issue

*The EXTERNAL and
INTERNAL PLUMBING,*

*OFF-PEAK THERMAL-
STORAGE HOT-WATER
SERVICES, and*

*COLD WATER
SERVICES*

by

F. CHURCH Ltd

Canterbury Works Glanville Road

Oxford

Telephone 77447

**ST. JOHN'S COLLEGE
OXFORD**

DE LANK

**CORNISH GRANITE
USED IN PLINTH COURSE**

*We specialise in Granite for
Architectural work.*

*Facings in Dolly Pointed, Fine Axed,
Egg Shell and high gloss polish.
From $\frac{1}{4}$ " upward thicknesses.*

**CORNISH DE LANK
GRANITE QUARRIES CO.**

ST. BREWARD · BODMIN
Phone St. Tudy 217

STEPHENSONS of OXFORD

OXFORDSHIRE'S LEADING
*Builders' Merchants
Roofing and Flooring
Contractors*

were pleased to assist with supplies of

BUILDING MATERIALS

for the NEW BUILDINGS at
St. JOHN'S COLLEGE illustrated
in this issue on pages 105-109

Botley Road

Oxford 49821
(10 lines)

New Building, St. John's College, Oxford.
See pages 105-109.

*Complete
Electrical installation
including
Under-floor heating
by*

**LOWE &
OLIVER LTD.**
SHIP STREET · OXFORD

Telephone Oxford 44515

ALPHABETICAL LIST TO ADVERTISERS

	PAGE		PAGE		PAGE
Accrington Brick & Tile Co. Ltd.	cv	Eico Plastics, Ltd.	xxvii	London Brick Company Ltd.	xc
Adamsez, Ltd.	xxxvii	Ellard Sliding Door Gears, Ltd.	ciii	Lowe & Oliver, Ltd.	cxi
Adshad Ratcliffe & Co. Ltd.	cvii	Engert & Rolfe, Ltd.	xx	Malkin, The, Tiles (Burslem), Ltd.	cvii
Airscrew Co. & Jicwood, Ltd.	xxii	Engravers Guild	c	Mander Brothers, Ltd.	cxiii
Allgood Continental, Ltd.	cx	Evertaut, Ltd.	x	Mason, Joseph, & Co. Ltd.	cxviii
Alumin Building Components, Ltd.	ix			Mellor Bromley (Air Conditioning), Ltd.	xxi
Atlas Stone Co. Ltd.	xxxiv	Formica, Ltd.	iii, xlv	Newman, William, & Sons, Ltd.	viii, xiii
Austin, James, & Sons (Dewsbury), Ltd.	xxxiv	Fox, Samuel, & Co. Ltd.	xi	Newton Chambers & Co. Ltd.	xviii
Auto Stacker, Ltd.	xxx	Freeman, Joseph, Sons & Co. Ltd.	xxvi	North British Linoleum Co. Ltd.	xxv
Bainbridge Brothers (Engineers), Ltd.	cvii	Frenger Ceilings, Ltd.	lxiii	Permanent Sickness Insurance Co. Ltd.	xiv
Baker & Hyman, Ltd.	cx	Gardner, G. B., & Newton, Ltd.	xciv	Perkins Boilers, Ltd.	cv
Barker, John, & Sons (Engineers), Ltd.	cix	Gascoigne, Geo. H., Co. Ltd.	lxxxi	Pilkington Brothers, Ltd.	xxxvi
Bendz, Ltd.	xi	Gay, R., & Co.	lxxv	Plyglass, Ltd.	lxiv
Benjamin, The, Electric, Ltd.	vii	General Electric Company Ltd.	lvi, xciv	Race, Ernest, Ltd.	lxxviii
Bilston Foundries, Ltd.	xix	Gibson, A. L., & Co. Ltd.	cviii	Ramsay & Sons (Forthar), Ltd.	civ
B.I.P. Reinforced Products, Ltd.	xxiii	Glass Benders Association	xxxii	Rawipiling, The, Co. Ltd.	xcvi
Black Sheathing Felt	xxvii	Goodlass, Wall & Co. Ltd.	lxiii	Reyrolle, A., & Co. Ltd.	xcviii
Bolding, John, & Sons, Ltd.	xli	Haden, G. N., & Sons, Ltd.	xvi	Riley (I.C.) Products, Ltd.	lxv
Boote, T. & R., Ltd.	lv	Hall, J. E., Ltd.	xxxiii	Sanderson, Arthur, & Sons, Ltd.	xv
British Ceramic Tile Council	lxviii	Harvey, G. A., & Co. (London) Ltd.	lix	Shanks, J. H., & Son, Ltd.	lxxxi
British Constructional Steel Association	l	Haskins, Ltd.	xxxviii	S.L.R. Electric, Ltd.	lvi
British Paints, Ltd.	xxxix	Hatherware, Ltd.	cx	Smith & Walton, Ltd.	vi
British Plumber, Ltd.	xliii	Hattersley (Ormskirk), Ltd.	xcix	Sound Control, Ltd.	xii
British Sanitary Fireclay Association	xliii	Haywards, Ltd.	xlii	Spencer Wire, The, Co. Ltd.	civ
Cafferrata & Co. Ltd.	xxv	Hills of London, Ltd.	lxi	Steel Radiators, Ltd.	cxi
Carpet Trades, Ltd.	lxxvi	Hills, F., & Sons, Ltd.	iv	Stephenson's of Oxford	cxi
Carson Brothers (Productions), Ltd.	ciii	Hills (West Bromwich), Ltd.	lxxiii	Sugg, William, & Co. Ltd.	cii
Chase Products (Engineering), Ltd.	cx	Home Grown Timber Marketing Corporation, Ltd.	xvii	Taylor Woodrow (Arcon), Ltd.	xxxii
Church, F., Ltd.	cxi	Hope, Henry, & Sons, Ltd.	ix	Teleflex Products, Ltd.	lvi
Colvilles, Ltd.	v	Howland, A. & F., (Wycombe), Ltd.	lxxv	Templeton, James, & Co. Ltd.	lii
Constructional Units, Ltd.	xvii	Humasco, Ltd.	xxxviii	Thermalite Ytong, Ltd.	cxiv
Copperad, Ltd.	lxvii	Ideal Boilers & Radiators, Ltd.	lxiv, xcii	Thermodare (Great Britain), Ltd.	ci
Cordar, Ltd.	xxx	Imperial Chemical Industries, Ltd.	xli, lxxxvi	Truscon, Ltd.	lxix
Cornish De Lank Granite Quarries Co.	cx	Incinerator, The, Co. Ltd.	cv	Tyler, E. W., & Co. Ltd.	lxxiv
Crittall, The, Manufacturing Co. Ltd.	cxviii	Jackson, David, (Engineering), Ltd.	cx	Vigers Brothers, Ltd.	cv
Crossley, John, & Sons, Ltd.	xcii	James, W., & Co. Ltd.	cviii	Wallpaper Manufacturers, Ltd.	lviii
Dawnays, Ltd.	ii	Johns, Edward, & Co. Ltd.	liv	West's Piling & Construction Co. Ltd.	cxii
Denison French, Ltd.	lxxvii	Latex Upholstery, Ltd.	cix	Wood, Edward, & Co. Ltd.	xlviii, sli
Denton Edwards Paints, Ltd.	xxiv	Leaderflush (Doors), Ltd.	lxxxix		
Dorman Long, Ltd.	lxv	Limmer & Trinidad Lake Asphalt Co. Ltd.	lx		
East & Son, Ltd.	xvii				
Econa Modern Products, Ltd.	lxxix				

SOUND PLANNING IS SECURELY BASED

ON

WEST'S SHELL PILING

S Y S T E M

Write for full details to:
WEST'S PILING & CONSTRUCTION CO. LTD.
 Foundation Specialists Design and Construction in Reinforced Concrete
 BATH ROAD • HARMONDsworth • MIDDLESEX • TEL.: SKYPORT 5222
 Branches in London • Bristol • Birmingham • Manchester • Glasgow
 Australia: West's Shell Piling (Asia) Pty. Ltd., Melbourne, Sydney, Adelaide & Wellington, N.Z.
 Southern Africa: The Roberts Construction Co. Ltd., Johannesburg
 France: Compagnie Générale de Construction de Pours, Paris
 A MEMBER OF WEST'S GROUP OF INDUSTRIES

W
P & C
CO

FRONT FOLD HERE

AR enquiry service

If you require catalogues and further information on building products, equipment and services referred to in the advertisements appearing in this issue of The Architectural Review please mark thus the relevant names given in the alphabetical index overleaf. Then detach this page and in the space overleaf type, or write in your name, address, profession or trade; fold the page so that the post-paid address is on the outside, and despatch.

All requests received will immediately be passed to the advertisers concerned.

Overseas readers, unfortunately, cannot take advantage of reply-paid postage; in the interest of time-saving we hope that they will return completed forms to us by air-mail.

Postage
will be paid
by
Licensee

FOLD HERE

No postage stamp
necessary
if posted
in Great Britain or
Northern Ireland

BUSINESS REPLY FOLDER
Licence No. S.W.1761

The ARCHITECTURAL REVIEW

9-13 Queen Anne's Gate

London, S.W.1.

ENGLAND

FOLD HERE

TOUCH IN THIS END

ALPHABETICAL LIST TO ADVERTISERS

PAGE	PAGE		
Accrington Brick & Tile Co. Ltd.	cvi	London Brick Company Ltd.	xc
Adamsez, Ltd.	lxxvii	Lowe & Oliver, Ltd.	cxii
Adsham Ratcliffe & Co. Ltd.	cvii	Malkin, The, Tiles (Burslem), Ltd.	cvii
Airscrew Co. & Jicwood, Ltd.	xxii	Mander Brothers, Ltd.	lxiii
Allgood Continental, Ltd.	cx	Mason, Joseph, & Co. Ltd.	lxxviii
Alumin Building Components, Ltd.	ix	Mellor Bromley (Air Conditioning), Ltd.	xxi
Atlas Stone Co. Ltd.	xxxiv	Newman, William, & Sons, Ltd.	viii, xii
Austin, James, & Sons (Dewsbury), Ltd.	lxxiv	Newton Chambers & Co. Ltd.	xviii
Auto Stacker, Ltd.	lxxx	North British Linoleum Co. Ltd.	xxv
Bainbridge Brothers (Engineers), Ltd.			
Baker & Hyman, Ltd.	cviii	Permanent Sickness Insurance Co. Ltd.	xiv
Barker, John, & Sons (Engineers), Ltd.	cx	Perkins Boilers, Ltd.	cv
Bendz, Ltd.	cvii	Pilkington Brothers, Ltd.	xxxvi
Benjamin, The, Electric, Ltd.	cix	Plyglass, Ltd.	xliii
Bilton Foundries, Ltd.	xi	Race, Ernest, Ltd.	lxxviii
B.I.P. Reinforced Products, Ltd.	vii	Ramsay & Sons (Forfar), Ltd.	civ
Black Sheathing Felt	viii	Rawplig, The, Co. Ltd.	xcvi
Bolding, John, & Sons, Ltd.	xxvii	Revrolle, A., & Co. Ltd.	xcviii
Boote, T. & R., Ltd.	xvi	Riley (L.C.) Products, Ltd.	xvi
British Ceramic Tile Council	lv	Sanderson, Arthur, & Sons, Ltd.	xv
British Constructional Steel Association	lxviii	Sankey, J. H., & Son, Ltd.	xxxi
British Paints, Ltd.	i	Shanks & Co. Ltd.	iv
British Plumber, Ltd.	xxxix	S.I.R. Electric, Ltd.	cix
British Sanitary Fireclay Association	xliii	Smith & Walton, Ltd.	vi
Cafferata & Co. Ltd.			
Carpet Trade, Ltd.	xxv	Sound Control, Ltd.	xii
Carson Brothers (Productions), Ltd.	ciii	Spencer Wire, The Co. Ltd.	civ
Chase Products (Engineering), Ltd.	cx	Steel Radiators, Ltd.	cxi
Church, F., Ltd.	cxi	Stephenson's of Oxford	cxi
Colvilles, Ltd.	v	Sugg, William, & Co. Ltd.	ci
Constructional Units, Ltd.	xcvii	Taylor Woodrow (Arcon), Ltd.	xxxii
Copperad, Ltd.	lxvii	Teleflex Products, Ltd.	iii
Cordar, Ltd.	xxx	Templeton, James, & Co. Ltd.	iii
Cornish De Lank Granite Quarries Co.	cxi	Thermalite Ytong, Ltd.	cxiv
Crittall, The, Manufacturing Co. Ltd.	cii	Thermode (Great Britain), Ltd.	ci
Crossley, John, & Sons, Ltd.	xcii	Truscon, Ltd.	ix
Dawnays, Ltd.			
Denison French, Ltd.	lxxvii	Tyler, E. W., & Co. Ltd.	lxxiv
Denton Edwards Paints, Ltd.	xxiv	Vigors Brothers, Ltd.	cv
Dorman Long, Ltd.	lxxv	Wallpaper Manufacturers, Ltd.	lviii
East & Son, Ltd.			
Econo Modern Products, Ltd.	xliii	West's Piling & Construction Co. Ltd.	cxii
London Brick Company Ltd.			
Lowe & Oliver, Ltd.			
Malkin, The, Tiles (Burslem), Ltd.			
Mander Brothers, Ltd.			
Mason, Joseph, & Co. Ltd.			
Mellor Bromley (Air Conditioning), Ltd.			
Newman, William, & Sons, Ltd.			
Newton Chambers & Co. Ltd.			
North British Linoleum Co. Ltd.			
Permanent Sickness Insurance Co. Ltd.			
Perkins Boilers, Ltd.			
Pilkington Brothers, Ltd.			
Plyglass, Ltd.			
Race, Ernest, Ltd.			
Ramsay & Sons (Forfar), Ltd.			
Rawplig, The, Co. Ltd.			
Revrolle, A., & Co. Ltd.			
Riley (L.C.) Products, Ltd.			
Sanderson, Arthur, & Sons, Ltd.			
Sankey, J. H., & Son, Ltd.			
Shanks & Co. Ltd.			
S.I.R. Electric, Ltd.			
Smith & Walton, Ltd.			
Sound Control, Ltd.			
Spencer Wire, The Co. Ltd.			
Steel Radiators, Ltd.			
Stephenson's of Oxford			
Sugg, William, & Co. Ltd.			
Taylor Woodrow (Arcon), Ltd.			
Teleflex Products, Ltd.			
Templeton, James, & Co. Ltd.			
Thermalite Ytong, Ltd.			
Thermode (Great Britain), Ltd.			
Truscon, Ltd.			
Tyler, E. W., & Co. Ltd.			
Vigors Brothers, Ltd.			
Wallpaper Manufacturers, Ltd.			
West's Piling & Construction Co. Ltd.			
Wood, Edward, & Co. Ltd.			



SOUND PLANNING IS SECURELY BASED

ON

WEST'S SHELL PILING
S Y S T E MWrite for full details to:
WEST'S PILING & CONSTRUCTION CO. LTD.

Foundation Specialists Design and Construction in Reinforced Concrete

BATH ROAD - HARMONDSPORT - MIDDLESEX - TEL.: SKYPORT 5222.

Branches in London - Bristol - Birmingham - Manchester - Glasgow

Australia: West's Shell Piling (Asia) Pty. Ltd., Melbourne, Sydney, Adelaide & Wellington, N.Z.

Southern Africa: The Roberts Construction Co. Ltd., Johannesburg

France: Compagnie Générale de Construction de Fours, Paris

A MEMBER OF WEST'S GROUP OF INDUSTRIES



The modern method combining pre-cast and cast-in-situ piling, in which the pile is firmly driven to a secure set in the load-bearing stratum, without fatigue in the pile core.



AR enquiry service

If you require catalogues and further information on building products, equipment and services referred to in the advertisements appearing in this issue of The Architectural Review please mark thus the relevant names given in the alphabetical index overleaf. Then detach this page and in the space overleaf type, or write in your name, address, profession or trade; fold the page so that the post-paid address is on the outside, and despatch.

All requests received will immediately be passed to the advertisers concerned.

Overseas readers, unfortunately, cannot take advantage of reply-paid postage; in the interest of time-saving we hope that they will return completed forms to us by air-mail.

FIRST FOLD HERE

Postage
will be paid
by
Licensee

FOLD HERE

No postage stamp
necessary
if posted
in Great Britain or
Northern Ireland

BUSINESS REPLY FOLDER
Licence No. S.W.1761

The ARCHITECTURAL REVIEW

9-13 Queen Anne's Gate

London, S.W.1.

ENGLAND

FOLD HERE

TUCK IN THIS END

Enquiry Service Form

alphabetical index to advertisers

PAGE	PAGE	PAGE
<input type="checkbox"/> Accrington Brick & Tile Co. Ltd. cvi	<input type="checkbox"/> Denton Edwards Paints, Ltd. ... xxiv	<input type="checkbox"/> Leaderflush (Doors), Ltd. ... lxxxix
<input type="checkbox"/> Adamsez, Ltd. ... lxxxvii	<input type="checkbox"/> Dorman Long, Ltd. ... lxv	<input type="checkbox"/> Limmer & Trinidad Lake Asphalt Co. Ltd. ... lxx
<input type="checkbox"/> Adshead Ratcliffe & Co. Ltd. cvii	<input type="checkbox"/> East & Son, Ltd.	<input type="checkbox"/> London Brick Company Ltd. ... xc
<input type="checkbox"/> Airscrew Co. & Jicwood, Ltd. xxii	<input type="checkbox"/> Econa Modern Products, Ltd. ...	<input type="checkbox"/> Lowe & Oliver, Ltd. ... cxi
<input type="checkbox"/> Allgood Continental, Ltd. cx	<input type="checkbox"/> Elco Plastics, Ltd. ...	<input type="checkbox"/> Malkin, The, Tiles (Burslem), Ltd. evi
<input type="checkbox"/> Alumin Building Components, Ltd. ix	<input type="checkbox"/> Ellard Sliding Door Gears, Ltd. ...	<input type="checkbox"/> Mander Brothers, Ltd. ... lxiii
<input type="checkbox"/> Atlas Stone Co. Ltd. xxxiv	<input type="checkbox"/> Engert & Rolfe, Ltd. ...	<input type="checkbox"/> Mason, Joseph, & Co. Ltd. ... lxxxviii
<input type="checkbox"/> Austin, James, & Sons (Dewsbury), Ltd. lxxxiv	<input type="checkbox"/> Engravers Guild ...	<input type="checkbox"/> Mellor Bromley (Air Conditioning), Ltd. ... xxi
<input type="checkbox"/> Auto Stackers, Ltd. lxxx	<input type="checkbox"/> Evertaut, Ltd. ...	<input type="checkbox"/> Newman, William, & Sons, Ltd. viii, xiii
<input type="checkbox"/> Bainbridge Brothers (Engineers), Ltd. cviii	<input type="checkbox"/> Formica, Ltd. ...	<input type="checkbox"/> Newton Chambers & Co. Ltd. ... xviii
<input type="checkbox"/> Baker & Hyman, Ltd. cx	<input type="checkbox"/> Fox, Samuel, & Co. Ltd. ... xi	<input type="checkbox"/> North British Linoleum Co. Ltd. ... xxv
<input type="checkbox"/> Barker, John, & Sons (Engineers), Ltd. cvii	<input type="checkbox"/> Freeman, Joseph, Sons & Co. Ltd. ... xxvi	<input type="checkbox"/> Perkins Boilers, Ltd. ... cv
<input type="checkbox"/> Bendz, Ltd. cix	<input type="checkbox"/> Frenger Ceilings, Ltd. ... lxii	<input type="checkbox"/> Permanent Sickness Insurance Co. Ltd. ... xiv
<input type="checkbox"/> Benjamin, The, Electric, Ltd. xi	<input type="checkbox"/> Gardner, G. B., & Newton, Ltd. ... xciv	<input type="checkbox"/> Pilkington Brothers, Ltd. ... xxxvi
<input type="checkbox"/> Bilston Foundries, Ltd. vii	<input type="checkbox"/> Gascoigne, Geo. H., Co. Ltd. ... lxxxi	<input type="checkbox"/> Plyglass, Ltd. ... xlii
<input type="checkbox"/> B.I.P. Reinforced Products, Ltd. xix	<input type="checkbox"/> Gay, R., & Co. ...	<input type="checkbox"/> Race, Ernest, Ltd. ... lxxviii
<input type="checkbox"/> Black Sheathing Felt ...	<input type="checkbox"/> General Electric Company Ltd. ... lxxv	<input type="checkbox"/> Ramsay & Sons (Forfar), Ltd. ... civ
<input type="checkbox"/> Bolding, John, & Sons, Ltd. xxxvii	<input type="checkbox"/> Gibson, A. L., & Co. Ltd. ... lvi, xciv	<input type="checkbox"/> Rawlplug, The, Co. Ltd. ... xcvi
<input type="checkbox"/> Boote, T. & R., Ltd. xlvi	<input type="checkbox"/> Glass Benders Association ...	<input type="checkbox"/> Reyrolle, A., & Co. Ltd. ... xcvi
<input type="checkbox"/> British Ceramic Tile Council ...	<input type="checkbox"/> Goodlass, Wall & Co. Ltd. ... lxxii	<input type="checkbox"/> Riley (I.C.) Products, Ltd. ... lxvi
<input type="checkbox"/> British Constructional Steel Association ...	<input type="checkbox"/> Haden, G. N., & Sons, Ltd. ... xvi	<input type="checkbox"/> Sanderson, Arthur, & Sons, Ltd. ... xv
<input type="checkbox"/> British Paints, Ltd. 1	<input type="checkbox"/> Hall, J. & E., Ltd. ...	<input type="checkbox"/> Sankey, J. H., & Son, Ltd. ... lxxi
<input type="checkbox"/> British Plumber, Ltd. ...	<input type="checkbox"/> Harvey, G. A., & Co. (London) Ltd. ... lix	<input type="checkbox"/> Shanks & Co. Ltd. ...
<input type="checkbox"/> British Sanitary Fireclay Association ...	<input type="checkbox"/> Haskins, Ltd. ...	<input type="checkbox"/> S.L.R. Electric, Ltd. ...
<input type="checkbox"/> Cafferata & Co. Ltd. ...	<input type="checkbox"/> Hatherware, Ltd. ...	<input type="checkbox"/> Smith & Walton, Ltd. ...
<input type="checkbox"/> Carpet Trades, Ltd. ...	<input type="checkbox"/> Hattersley (Ormskirk), Ltd. ...	<input type="checkbox"/> Sound Control, Ltd. ...
<input type="checkbox"/> Carson Brothers (Productions), Ltd. ...	<input type="checkbox"/> Haywards, Ltd. ...	<input type="checkbox"/> Spencer Wire, The, Co. Ltd. ...
<input type="checkbox"/> Chase Products (Engineering), Ltd. ...	<input type="checkbox"/> Hille of London, Ltd. ...	<input type="checkbox"/> Steel Radiators, Ltd. ...
<input type="checkbox"/> Church, F., Ltd. ...	<input type="checkbox"/> Hills, F., & Sons, Ltd. ...	<input type="checkbox"/> Stephenson's of Oxford ...
<input type="checkbox"/> Colvilles, Ltd. ...	<input type="checkbox"/> Hills (West Bromwich), Ltd. ...	<input type="checkbox"/> Sugg, William, & Co. Ltd. ...
<input type="checkbox"/> Constructional Units, Ltd. ...	<input type="checkbox"/> Home Grown Timber Marketing Corporation, Ltd. ...	<input type="checkbox"/> Taylor Woodrow (Arcon), Ltd. ...
<input type="checkbox"/> Copperad, Ltd. ...	<input type="checkbox"/> Hope, Henry, & Sons, Ltd. ...	<input type="checkbox"/> Teleflex Products, Ltd. ...
<input type="checkbox"/> Cordar, Ltd. ...	<input type="checkbox"/> Howland, A. & F. (Wycombe), Ltd. ...	<input type="checkbox"/> Templeton, James, & Co. Ltd. ...
<input type="checkbox"/> Cornish De Lank Granite Quarries Co. ...	<input type="checkbox"/> Humasco, Ltd. ...	<input type="checkbox"/> Thermalite Ytong, Ltd. ...
<input type="checkbox"/> Crittall, The, Manufacturing Co. Ltd. ...	<input type="checkbox"/> Ideal Boilers & Radiators, Ltd. ...	<input type="checkbox"/> Thermodare (Great Britain), Ltd. ...
<input type="checkbox"/> Crossley, John, & Sons, Ltd. ...	<input type="checkbox"/> Imperial Chemical Industries, Ltd. ...	<input type="checkbox"/> Truscon, Ltd. ...
<input type="checkbox"/> Dawnays, Ltd. ...	<input type="checkbox"/> Incinerator, The, Co. Ltd. ...	<input type="checkbox"/> Tyler, E. W., & Co. Ltd. ...
<input type="checkbox"/> Denison French, Ltd. ...	<input type="checkbox"/> Jackson, David, (Engineering), Ltd. ...	<input type="checkbox"/> Vigers Brothers, Ltd. ...
	<input type="checkbox"/> James, W., & Co. Ltd. ...	<input type="checkbox"/> Wallpaper Manufacturers, Ltd. ...
	<input type="checkbox"/> Johns, Edward, & Co. Ltd. ...	<input type="checkbox"/> West's Piling & Construction Co. Ltd. ...
	<input type="checkbox"/> Latex Upholstery, Ltd. ...	<input type="checkbox"/> Wood, Edward, & Co. Ltd. ...

Write in block letters, or type, your name, profession and address below,
and fold so that the post-paid address overleaf is on the outside.

NAME _____

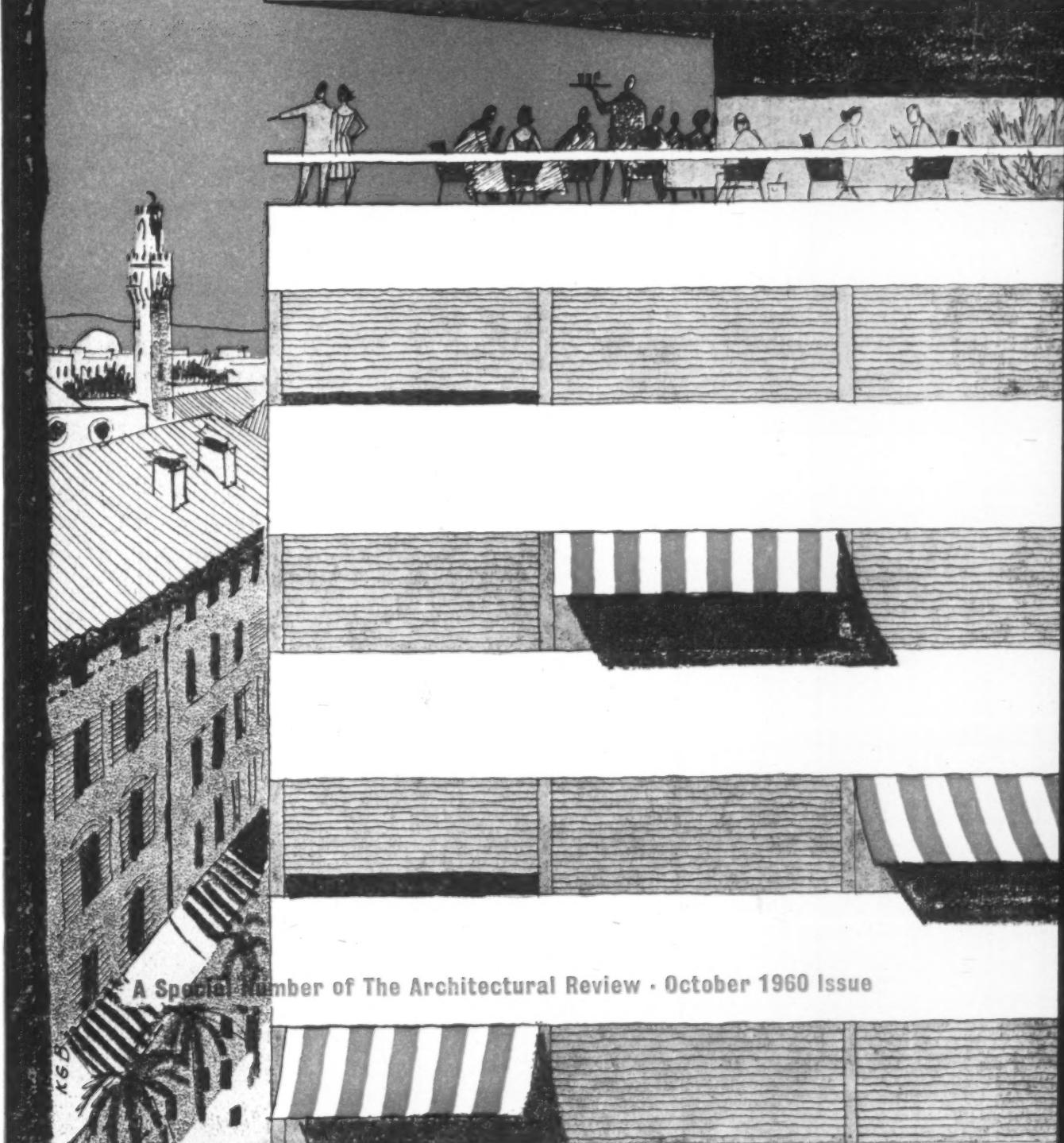
PROFESSION _____

ADDRESS _____

←
MOST
IMPORTANT

The Planning, Servicing, Equipment and Decoration of the Modern Hotel

HOTEL DESIGN



A Special Number of The Architectural Review · October 1960 Issue

Advertisers are invited to send for detailed brochure on this special number. Reservations of advertisement space should be made without delay.

Printed in Great Britain for the Proprietors of "THE ARCHITECTS' JOURNAL," of "THE ARCHITECTURAL REVIEW," and of "SPECIFICATION" (THE ARCHITECTURAL PRESS, LTD.)
9-13, Queen Anne's Gate, Westminster, S.W.1, by KNAPP, DREWETT & SONS LTD., by appointment to Her Majesty the Queen, Printers, Kingston-on-Thames.
Editorial illustrations engraved by THE ENGRAVERS GUILD LTD., Windsor House, 23/26, Cursitor Street, London, E.C.4.
Entered in the New York Post Office as Second Class Matter

THERMALITE

the leading name in loadbearing insulating building blocks

